

2:15-cv-01045-RFB-PAL

UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

CUNG LE, et al.,
Plaintiffs,
vs.
ZUFFA, LLC, d/b/a Ultimate
Fighting Championship and
UFC,
Defendants.

)
)
) Case No. 2:15-cv-01045-RFB-PAL
)
) Las Vegas, Nevada
) Tuesday, August 27, 2019
) 9:15 a.m.
)
) EVIDENTIARY HEARING, DAY TWO
)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

THE HONORABLE RICHARD F. BOULWARE, II,
UNITED STATES DISTRICT JUDGE

APPEARANCES: See Pages 2 and 3

COURT REPORTER: Patricia L. Ganci, RMR, CRR
United States District Court
333 Las Vegas Boulevard South, Room 1334
Las Vegas, Nevada 89101

Proceedings reported by machine shorthand, transcript produced
by computer-aided transcription.

2:15-cv-01045-RFB-PAL

1 APPEARANCES:

2 For the Plaintiffs:

3 **DON SPRINGMEYER, ESQ.**4 WOLF, RIFKIN, SHAPIRO, SCHULMAN & RABKIN, LLP
5 3556 E. Russell Road, 2nd Floor
6 Las Vegas, Nevada 89120
7 (702) 341-52008 **ERIC L. CRAMER, ESQ.**9 **PATRICK F. MADDEN, ESQ.**10 **MARK R. SUTER, ESQ.**11 BERGER & MONTAGUE, P.C.
12 1818 Market Street, Suite 3600
13 Philadelphia, Pennsylvania 19103
14 (215) 875-300015 **DANIEL H. SILVERMAN, ESQ.**16 COHEN, MILSTEIN, SELLERS & TOLL, PLLC
17 1100 New York Avenue, NW, Suite 500 West
18 Washington, DC 20005
19 (202) 408-460020 **JOSEPH SAVERI, ESQ.**21 **JOSHUA P. DAVIS, ESQ.**22 THE JOSEPH SAVERI LAW FIRM, INC.
23 555 Montgomery Street, Suite 1210
24 San Francisco, California 94111
25 (415) 500-6800

For the Defendants:

17 **SAMUEL MIRKOVICH, ESQ.**18 CAMPBELL & WILLIAMS
19 700 South 7th Street
20 Las Vegas, Nevada 89101
21 (702) 382-522222 **WILLIAM A. ISAACSON, ESQ.**23 **STACEY K. GRIGSBY, ESQ.**24 **NICHOLAS A. WIDNELL, ESQ.**25 BOIES, SCHILLER & FLEXNER, LLP
1401 New York Avenue, NW
Washington, DC 20015
(202) 237-2727

2:15-cv-01045-RFB-PAL

1 APPEARANCES CONTINUED:

2 **BRENT K. NAKAMURA, ESQ.**
 3 BOIES, SCHILLER & FLEXNER, LLP
 4 1999 Harrison Street, Suite 900
 Oakland, California 94612
 (510)874-1000

5
 6 ALSO PRESENT:

7 Riche McKnight, Esq., Zuffa

8
 9 INDEX OF EXAMINATIONS

10 TESTIMONY OF HAL JASON SINGER, Ph.D.
 Further Cross-Examination by Mr. Isaacson.....4

11 TESTIMONY OF ROBERT TOPEL, Ph.D.
 Direct Examination by Mr. Isaacson.....104

12
 13 LAS VEGAS, NEVADA; TUESDAY, AUGUST 27, 2019; 9:15 A.M.

14 --oOo--

15 P R O C E E D I N G S

16 COURTROOM ADMINISTRATOR: All rise.

17 THE COURT: Please be seated.

18 All right. We are back on the record for our second
 19 day of hearings. Dr. Singer, you recognize you're still under
 20 oath?

21 THE WITNESS: I do.

22 THE COURT: Mr. Isaacson, you may proceed.

23 MR. ISAACSON: Thank you, Your Honor, and good morning.

24 THE COURT: Good morning.

25

2:15-cv-01045-RFB-PAL

1 FURTHER CROSS-EXAMINATION OF HAL JASON SINGER, Ph.D.

2 BY MR. ISAACSON:

3 Q. Dr. Singer, I think you agreed yesterday that in your model
4 you've used a promoter variable, a time trend variable, and a
5 years effects variable to help disaggregate the contribution of
6 foreclosure share between Zuffa's contribution and marginal
7 revenue product?

8 A. I don't think I'd put it that way. I'll acknowledge that
9 when I used the Strikeforce preacquisition data, I had to
10 control for the -- for the fact that some of the data was being
11 generated by Strikeforce data and other data were being
12 generated by Zuffa data. I think that the question presumes
13 that those are the only variables in the model that --

14 Q. I didn't attempt to presume that in the question. I was
15 just asking if those three variables help you disaggregate.

16 A. In -- well, so, that's where I was going with my answer is,
17 in part, in part they do, but there are other things there that
18 are helping me isolate the effect of the foreclosure share
19 changes on changes in the wage share.

20 Q. Okay. In terms of the promoter effect variable, as you
21 said, that was only -- you only used that variable in your
22 regression that included the preacquisition Strikeforce data
23 set. Is that correct?

24 A. I believe so. I believe that's the case, yes.

25 Q. All right. And when you use -- and the promoter variables

2:15-cv-01045-RFB-PAL

1 that you used, in that regression, was a promoter variable for
2 WEC?

3 **A.** Well, there were three different types of observations.
4 There are three different types of data sets. One, yes, was
5 WEC, but WEC was a very, very small data set in relation to the
6 Strikeforce data.

7 THE COURT: When you say "WEC," Dr. Singer, you need to
8 identify that for the record just so when you are using
9 initials, we know what you're talking about.

10 THE WITNESS: Right.

11 BY MR. ISAACSON:

12 Q. Okay. World -- what's the "E"?

13 Extreme Cagefighting.

14 THE WITNESS: Right.

15 THE COURT: Okay.

16 BY MR. ISAACSON:

17 Q. World Extreme Cagefighting, the -- so, you used -- so, for
18 the regression with pre-Strikeforce acquisition, you had a
19 promoter variable for WEC, and WEC ended around 2006, right?

20 **A.** Correct.

21 Q. Okay. And then you had a promoter variable for Strikeforce,
22 which was acquired in 2011.

23 THE COURT: Okay. When you say that, I'm not sure I
24 understand what you mean.

25 BY MR. ISAACSON:

2:15-cv-01045-RFB-PAL

1 Q. So, when you had --

2 THE COURT: Well, let me ask this. Which regressions
3 did you run that included an explicit promoter variable? If you
4 recall.

5 THE WITNESS: Uhm. Yeah. I believe the only
6 regressions -- I ran a lot of regressions, of course.

7 THE COURT: Right.

8 THE WITNESS: But the only regressions where I needed
9 to distinguish whether it was a Strikeforce observation as
10 opposed to, say, a Zuffa observation was, of course, the
11 regression that included the pre-Strikeforce acquisition
12 database. I ran separate regressions that were exclusively
13 Zuffa.

14 THE COURT: And in those regressions, what variables
15 did you use to seek to capture whatever Zuffa's contribution
16 might have been to the wage share?

17 THE WITNESS: Right. So, I'll try to tick through
18 them, but the time trend could be capturing Zuffa contributions.

19 THE COURT: So that would be, if there was a change,
20 for example, in policies, or practices, or marketing practices,
21 where they improved over time, that should be captured somewhat
22 in the time?

23 THE WITNESS: They could be. They could be, yes. I
24 also included your fixed effects. So if Zuffa did something
25 special with respect to boosting the productivity of the

2:15-cv-01045-RFB-PAL

1 non-fighter inputs, the time -- the time -- the year fixed
2 effects would capture those.

3 THE COURT: And that was also in the same model with
4 the time --

5 THE WITNESS: Oh, yes.

6 THE COURT: -- effect. Okay.

7 THE WITNESS: I also included, at the -- in my search
8 for what could possible -- what the special sauce could possibly
9 mean, I included a promotional variable that captured changes in
10 the amount of promotional spending by Zuffa under the assumption
11 that Zuffa is making contributions through its unique and
12 special marketing and promotion -- promoting of events. That
13 didn't upset the relationship. I finally included what I call
14 "Dr. Topel's Kitchen Sink" variable, which is all non-fighter
15 expenses that are related to the event. And that did not upset
16 the relationship either.

17 THE COURT: So that -- that catchall variable, that was
18 included in the regression that also had the promoter --
19 promotion variable, the time series variable, and the fixed
20 effects variable?

21 THE WITNESS: I think that when I did the -- the
22 catchall variable, because it contains promotion, I didn't need
23 to also --

24 THE COURT: Right.

25 THE WITNESS: -- include promotion. But, yes, every

2:15-cv-01045-RFB-PAL

1 time I add on a new variable, I'm generally -- unless it's going
2 right over the path as the promotion, I'm going the leave the
3 other control variables alone in the model.

4 THE COURT: Right. Okay. So --

5 MR. ISAACSON: If we could look at his slide 70.

6 BY MR. ISAACSON:

7 Q. This was the slide you used yesterday to show, I believe,
8 which is your current estimate of injury of all or virtually all
9 class members, correct?

10 A. And it's important to recognize that because it came from
11 yesterday's presentation, we didn't want to present every model
12 in the paper because your head could start spinning.

13 Q. This is the current one you're relying on?

14 THE COURT: No. Again, Mr. Isaacson, I want to be
15 clear about the reports. The report contains multiple
16 references to this same information. So, I don't think it's
17 appropriate or fair to sum up this in the one chart because
18 that's not what the report does.

19 MR. ISAACSON: Well, I'm trying -- I'm trying to figure
20 out what he's doing because, for example, this one was not in
21 your report; this is from backup from your report, right?

22 THE WITNESS: This is from backup. We decided to
23 present Your Honor one model.

24 THE COURT: Right.

25 THE WITNESS: We could have presented any number of

2:15-cv-01045-RFB-PAL

1 models, but we didn't want to -- we didn't want to keep changing
2 the exhibits for each model so we went with one model, the most
3 conservative model, the largest market definition, the ranked
4 definition, the model that did not make use of the
5 preacquisition Strikeforce data, which we know now contributes
6 significantly to contributing to the foreclosure share. So, we
7 wanted to go with the most conservative model possible and just
8 stick with one so that it was easier to explain. And this is
9 what the method A common impact proof shows. Remember, there
10 are two, method A and method B.

11 THE COURT: And this included which data?

12 THE WITNESS: This one --

13 THE COURT: Just so we're clear. I think that's
14 probably what Mr. Isaacson is asking.

15 THE WITNESS: Just so we're clear. This excludes the
16 Strike -- preacquisition Strikeforce data, so we're only going
17 to use the Zuffa data in this. And that means that the only
18 possible variations that can contribute to informing the
19 foreclosure share variable are variations within Zuffa across
20 time.

21 THE COURT: Okay.

22 BY MR. ISAACSON:

23 Q. So this then has no promoter effect variables, correct?

24 **A.** To the extent that there is a promoter effect variable, if
25 we were trying to control for those few WEC observations at the

2:15-cv-01045-RFB-PAL

1 very, very beginning of the study, it's possible that we did,
2 but we wouldn't have to control for the difference between Zuffa
3 and Strikeforce in this database, in this regression.

4 Q. And --

5 THE COURT: So, hold on a second. Did you -- what --
6 for this variable, were there these other variables that you had
7 mentioned previously as it relates to the percentage or the
8 time?

9 THE WITNESS: Oh, sure. Sure. Yeah. All those
10 control variables, Your Honor, those are sticking around --

11 THE COURT: The only variable that wasn't included here
12 was the promoter variable which would distinguish between Zuffa
13 and Strikeforce or another --

14 THE WITNESS: Correct.

15 THE COURT: -- promotor?

16 THE WITNESS: Correct. If we didn't have Strikeforce
17 data, we didn't need to tell the regressions that you might be
18 looking at a Strikeforce data point.

19 THE COURT: Okay.

20 BY MR. ISAACSON:

21 Q. Well, just to be clear, of the variables that you listed
22 before, the only two that are in here are the time trend and
23 year fixed effects; it doesn't include a promotor, a promotional
24 variable, or what you called your kitchen sink variable?

25 A. I think that that is correct, that in terms of what is here

2:15-cv-01045-RFB-PAL

- 1 in terms of percent impact, that it was from my first study,
2 from the initial study. And just to get the bearings, we
3 didn't -- we didn't get the special sauce attack and we
4 didn't -- we didn't try to include things like promotion and
5 kitchen sink until after this study. And, so, this one that
6 we're looking at right here comes out of my first report, or the
7 backup to the first report. And it shows you what method A,
8 which is my shorthand for one of two common impact proofs, shows
9 in terms of the percent injured using that model and that data.
- 10 Q. All right. And this -- this regression is revenue weighted,
11 correct?
- 12 A. I believe this is the revenue weighted approach, yes.
- 13 Q. All right. And the -- in all of your regressions that used
14 a promoter effect variables, the only promoters that were
15 included were WEC and Strikeforce?
- 16 A. I believe that the only data that we received, the only
17 compensation -- granular compensation data that would allow us
18 to build a database that would match what a fighter got paid
19 with the events that feature that fighter were from those three
20 promoters, yes. That was the entirety of the database that we
21 received.
- 22 Q. But when you -- when you had a promoter variable such as for
23 Strikeforce, what you did was you turned it on and off, you gave
24 it a 1 or a 0?
- 25 A. We had to let the computer know that the data was either

2:15-cv-01045-RFB-PAL

1 coming from the Strikeforce database or from the Zuffa database.
2 So that's the standard way that an econometrician will use
3 what's called a "dummy" or an "indicator" variable. It turns on
4 if it's Strikeforce and it turns off if it's not Strikeforce.

5 Q. All right. So, when you're talking about promoter variables
6 in these regressions, you're never trying to do a comparison to
7 Bellator, ONE, PFL, ACB, any other promoters other than
8 Strikeforce and WEC?

9 A. I think it's pretty clear that we don't have Bellator's
10 granular event-by-event compensation data and, so, we could not
11 bring Bellator into the model. And, so, we did not therefore
12 need to add a control called the "Bellator dummy" because we
13 didn't have Bellator data.

14 Q. All right. And -- oh, and you -- in all the regressions
15 that you've produced in this case, you've not produced one that
16 estimates injury with unweighted headliners, correct?

17 A. We -- we've produced so many I'm not sure, but it would be
18 ministerial to make that calculation.

19 Q. All right. Well, you didn't -- now, if we can look at slide
20 57.

21 A. And can I just say, when you said "injury," just so that
22 we're on the same page, do you mean the method A of common
23 impact?

24 Q. Like this (indicating).

25 A. Right. Right. It would be -- it would be ministerial to do

2:15-cv-01045-RFB-PAL

1 so.

2 Q. The -- this was, again, a slide from your presentation, and
3 you talked about the reasons why foreclosure share rose.

4 Now, between -- during that period when it's rising,
5 the other thing that's going on is before the acquisition,
6 you're using the weighting for Strikeforce and after the
7 acquisition you're using the weighting for Zuffa, right?

8 A. Well, I think it's fair to say that once Strikeforce leaves
9 the marketplace there are no more Strikeforce fighters in the
10 relevant market. And, therefore, when you go to weight a
11 promoter's pool that contains some of those fighters, you would
12 not weight by Strikeforce's average revenue per event.

13 Q. All right. So -- and the weighting for a Strikeforce event
14 and a Zuffa event are tremendously different, right?

15 A. They are different, yes.

16 Q. Okay. And the other -- and for your foreclosure share, when
17 you do a regression with the preacquisition Strikeforce, you
18 give Strikeforce events a foreclosure share of 0 and then once
19 they become Zuffa events, then they get the higher foreclosure
20 share such as 70, 80, 90 percent?

21 A. That's pretty complicated. Is it okay if I explain to Your
22 Honor?

23 THE COURT: Please.

24 THE WITNESS: So, what we -- we knew that when we
25 blended the data together for one of these runs, we knew that

2:15-cv-01045-RFB-PAL

1 there was a possibility that when Strikeforce determined its
2 wage share, how much it was going to pay its fighters as a
3 percentage of the event revenues. It might be a function of
4 Zuffa's marketwide foreclosure, in which case that would give us
5 less confidence in using the Strikeforce wage share as a
6 competitive benchmark. You could say it was potentially
7 contaminated by the conduct itself. We wanted a clean
8 benchmark.

9 THE COURT: It would be dependent upon the other
10 variable?

11 THE WITNESS: Well, the foreclosure variable in
12 particular. I want it to be clean. I want it to be a clean
13 benchmark. And, so, the first thing that we did was we ran a
14 regression to determine whether, in fact, the wage share
15 variation across the Strikeforce fighters could be explained by
16 Zuffa's foreclosure share. And there was no statistical
17 significance to that -- to that variable. It had no predictive
18 power. So, that meant that when Strikeforce was choosing its
19 wage share --

20 THE COURT: It was not --

21 THE WITNESS: -- it was not cueing off of that -- it
22 was cueing off of other things, but it wasn't cueing off of
23 that. That gave me confidence to combine the data. And then
24 the final question left was what then should you -- how should
25 you code the value of Zuffa's foreclosure share when you are

2:15-cv-01045-RFB-PAL

1 looking at a Strikeforce observation, and the -- and the
2 standard technique then is to code it as a 0.

3 THE COURT: Because there was no relationship --

4 THE WITNESS: Because there was no -- but I didn't
5 want -- the question -- I don't think Mr. Isaacson was doing
6 this, but I just wanted, for the record to be clear. We didn't
7 just willy-nilly set it to 0 just assuming there was an effect.
8 We tested the effect, and then we -- and then we combined the
9 database.

10 THE COURT: Okay.

11 BY MR. ISAACSON:

12 Q. Right. But, so, in terms of what's driving this, just the
13 coding, you've gone from 0 to -- you've gone from 0 to 70 to 90
14 percent depending on the Zuffa foreclosure share?

15 A. I don't follow. I'm sorry.

16 Q. So, in the coding, the Strikeforce foreclosure share has 0
17 then it becomes Zuffa, then it gets that much higher foreclosure
18 share, whatever the actual is, 70, 80, 90 percent?

19 A. Still not -- still not quite sure that you're describing it
20 right.

21 THE COURT: Are you talking about the period between
22 when they were still Strikeforce -- under Strikeforce contract
23 after the acquisition, but being included in the figure?
24 Because once they're under contract with Zuffa, then they would
25 have their own --

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: Well, I was about --

2 THE COURT: -- weight. So, I'm not -- I'm not sure I'm
3 understanding.

4 MR. ISAACSON: I was about to get to that.

5 BY MR. ISAACSON:

6 Q. So there's two periods here. There's the preacquisition
7 period, and then post-acquisition there were some events that
8 while they're owned by Zuffa --

9 THE COURT: Right.

10 BY MR. ISAACSON:

11 Q. -- and run by Zuffa and promoted by Zuffa, they're branded
12 as a Strikeforce event. You go, we're going to a Strikeforce
13 fight, and you know that, right?

14 A. That was a very short period, but yes.

15 Q. Right. But there are a number of events like that?

16 A. There are a handful of events like that, yes. But very soon
17 the Strikeforce brand disappeared.

18 Q. Right. And those got coded as what?

19 A. When -- when you say "those," I'm not doing this --

20 Q. The events -- the events post-acquisition that are still
21 branded as Strikeforce events, that we're going to a Strikeforce
22 event.

23 A. I believe that as soon as the fighters were inside of the
24 Zuffa organization the weights that were attached to those
25 fighters were based on Zuffa's revenues, but I want to explain

2:15-cv-01045-RFB-PAL

1 something that's very, very pool -- very, very important, and I
2 think that it might explain kind of the disconnect or some
3 confusion that we're having is that the foreclosure share is
4 based on the pool of Zuffa's fighters. How are we going to
5 weight the pool of the fighters when we do the revenue weights?
6 And, so, it is true that some former Strikeforce fighters get
7 absorbed into the Zuffa organization and at that point they're
8 part of the pool of Zuffa's fighters.

9 And, so, when I go to come up with a Zuffa share
10 post-acquisition, I'm going to apply Zuffa's average revenues
11 per event to weight its pool of fighters despite the fact that
12 some of these fighters came from Strikeforce.

13 THE COURT: Because the foreclosure share focuses on
14 the control of the fighters and that effect on the input?

15 THE WITNESS: Exactly. How big is Zuffa's footprint,
16 how big is Zuffa's pool of fighters.

17 BY MR. ISAACSON:

18 Q. Right. And for those events post-acquisition that were
19 branded as Strikeforce, which revenue weighting did you use, the
20 Strikeforce revenue weighting or the Zuffa revenue weighting?

21 A. Well, I hear this question the same as the last question you
22 asked me, but you're talking about in this very tight window in
23 time in which you had a Strikeforce-branded event despite the
24 fact that they were inside of the mothership.

25 Q. Right. Right. Whose revenue weighting were you using?

2:15-cv-01045-RFB-PAL

1 **A.** Yeah. I believe that my answer is the same as it was three
2 minutes ago, which is I believe that I'm using Zuffa's event
3 revenues --

4 **Q.** Okay.

5 **A.** -- for Zuffa's pool of fighters, including those who may
6 have been fighting for a very, very short period of time in an
7 event that was branded as a -- as a Strikeforce event.

8 **Q.** All right.

9 THE COURT: But once these individuals were under
10 contract with Zuffa -- so, after the beginning part of 2011 --
11 that's that the rest of this foreclosure share includes them
12 as --

13 THE WITNESS: And -- and, Your Honor, this is --

14 THE COURT: -- as part of -- hold on. Let me just
15 finish.

16 THE WITNESS: I'm sorry. I'm sorry. I apologize.

17 THE COURT: No. That's all right.

18 So there is that window, but then after that, they were
19 all essentially under contract with Zuffa and that's the rest of
20 the right side of this graph. Is that right?

21 THE WITNESS: Correct. And I just want to make one
22 other point, too. We saw -- when we didn't do revenue
23 weightings yesterday, we saw the same patterns that were
24 emerging. I know we get into fights over revenue weights until
25 we're blue in the face, but the Strikeforce acquisition

2:15-cv-01045-RFB-PAL

1 contributed significantly to Zuffa's share of the market share.
2 They got a bunch of very highly ranked fighters.

3 THE COURT: Right. Particularly the submarket.

4 THE WITNESS: Particularly the headliner submarket,
5 even on an unweighted basis.

6 BY MR. ISAACSON:

7 Q. Right. And just to be clear, is the Strikeforce promoter
8 variable set to 1 for post-acquisition bouts?

9 THE COURT: When you say "set to 1" --

10 MR. ISAACSON: Meaning it's turned on. So the promoter
11 effected variable is turned on.

12 THE COURT: When -- I'm sorry, for which --

13 MR. ISAACSON: So post-acquisition. So there's a
14 Strikeforce variable --

15 THE COURT: Right.

16 MR. ISAACSON: -- which he says is turned on or off.
17 When it's 1 -- when you give it a 1, then it's turned on.

18 THE COURT: Can you point to which analysis? Because I
19 think that Dr. Singer said that they ran multiple regressions
20 and, so, are you asking about this particular model?

21 MR. ISAACSON: I'm talking about when -- well, when
22 he's using the preacquisition Strikeforce database.

23 THE COURT: Okay. But I'm saying he ran multiple
24 regressions, so I'm not sure --

25 MR. ISAACSON: I think the answer --

2:15-cv-01045-RFB-PAL

1 THE COURT: -- I understand --

2 MR. ISAACSON: I think the answer is the same any time
3 he does this.

4 THE COURT: Okay. Well -- okay. You can ask that.
5 I'm not sure I understand --

6 THE WITNESS: From what I hear you saying,
7 post-acquisition, the fighter has now been absorbed into Zuffa
8 and Zuffa is generating data for us. Zuffa is telling us how
9 much they paid that fighter. And you're asking me --

10 BY MR. ISAACSON:

11 Q. And it's a Strikeforce event.

12 **A.** Oh, and it's a Strikeforce event. I would have to go back
13 check the code, but what we're talking about is a very, very
14 narrow window of when events are still being branded as
15 Strikeforce. My surmise is that if they sold the event as a
16 Strikeforce event, they didn't want to change the branding of
17 it, but this thing -- this thing very quickly goes away.

18 MR. ISAACSON: All right. Can we go to his second
19 report, Table 2, at page 116.

20 BY MR. ISAACSON:

21 Q. Now, this is the impact regression that you were using in
22 your second report. And it reports total fighters of 1,056?

23 Do you see that?

24 **A.** I do.

25 Q. Okay. Is that still the case, the number of fighters that

2:15-cv-01045-RFB-PAL

1 are in your regression that you're reporting now?

2 **A.** I'd have to -- I'd have to get my bearings as to why it's
3 smaller. The -- I'm remembering another table that we just
4 looked at based on 1,214 fighters, so I'd have to -- you'd have
5 to give me a second to kind of get my bearings to see why this
6 data set is smaller.

7 **Q.** And you have estimated that there are 1,214 fighters in the
8 bout class, correct?

9 **A.** That is correct, but for this cut in the -- in the -- you
10 know, we do this many, many ways. For this cut, in this reply
11 report, we're probably doing it for a certain set of conditions
12 where the number of unique fighters is smaller.

13 **Q.** All right. Is 1,056 the approximate number of fighters that
14 are in the injury regression that you've been reporting and that
15 we've been looking at with the court today?

16 **A.** No, the -- the number, and I'm doing this by memory of what
17 was in the slide deck for the presentation was something on the
18 order of 1,214 fighters.

19 **Q.** Okay.

20 **MR. ISAACSON:** Now, can we look at his slide 64.

21 **BY MR. ISAACSON:**

22 **Q.** All right. Yesterday when you were you were talking about
23 that you saw a problem with the -- Dr. Topel's regression and
24 you were pointing to the event revenue. Now, the "E," that's
25 the error term or the residual? Those are terms that you used

2:15-cv-01045-RFB-PAL

1 for that?

2 **A.** Sure. That's a good one.

3 **Q.** Okay. And what you were -- do I understand that what you
4 were saying is that the event revenue is not being properly used
5 because it would be correlated with the residual, the "E"?

6 **A.** That's -- that's a technical way of explaining endogeneity
7 or the simultaneity problem, yes.

8 **Q.** Okay. And are you saying it's a positive correlation or a
9 negative correlation?

10 **A.** Oh, I'm saying that the data generation process, that there
11 is a variable lurking in the background, marginal revenue
12 product. And when that goes up, that's going to -- that's going
13 to increase event revenue and wage level at the same time. As
14 to what it does to the error term, that could vary by fighter
15 and I'd have to -- I'd probably have to work that out on a piece
16 of paper.

17 **Q.** So you're not sure -- you're not sure if it's a positive
18 correlation or not?

19 **A.** I'm not sure of the direction of the -- of the bias, but I
20 am sure that the variables that come out of Dr. Topel's
21 regression are biased because of the simultaneity introduced by
22 mistakenly swinging revenues over to the right-hand side.

23 **Q.** So, I understand you saying the result is that they're
24 biased, but I would like to know whether the correlation that
25 you're saying is happening between the event revenue and the

2:15-cv-01045-RFB-PAL

1 residual is a positive correlation or not.

2 THE COURT: Why? Because what I understand he's saying
3 is that the problem is that there's a direct correlation, which
4 means that it's not an independent variable, which means that
5 they're -- they're working together and you're not separating
6 out the effect of the event revenue.

7 MR. ISAACSON: So --

8 THE COURT: So, that would bias the variable whether
9 it's negative or positive. So I'm not really sure why it would
10 matter.

11 MR. ISAACSON: So --

12 THE COURT: Because the problem isn't that it's
13 positive or negative. The problem is that they're correlated
14 and it's not independent, at least as I understand what
15 Dr. Singer is saying.

16 MR. ISAACSON: We don't think what you're saying right
17 now is correct, Your Honor.

18 THE COURT: Well, that's the way -- when you're saying
19 you don't think it's correct, because that's not the way
20 statistical models work --

21 MR. ISAACSON: Correct.

22 THE COURT: -- or you don't think it's correct because
23 that's not the say that this model works?

24 MR. ISAACSON: The former. So, and Dr. Topel --

25 THE COURT: Wait. So are you --

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: I'm going to let Dr. --

2 THE COURT: Wait. Hold on. So are you saying that you
3 can put an independent variable on the right side of an equation
4 that is directly correlated with and dependent on the -- on the
5 dependent variable and that that's still a statistically valid
6 method for testing the independence of that variable?

7 MR. ISAACSON: So we don't think a negative correlation
8 matters, and we don't think -- and, you know --

9 THE COURT: Because I'm trying to understand.

10 MR. ISAACSON: I'm clearly setting this up for
11 Dr. Topel to explain this to you.

12 THE COURT: No. I understand that. I'm trying to
13 understand at least -- again, maybe I'm -- and Dr. Topel can
14 help me understand.

15 MR. ISAACSON: I think that's going to be the most
16 efficient thing to do here.

17 THE COURT: Because my understanding is that you can't
18 have variables that are set up as being independent on the right
19 side of the equation if, in fact, they're dependent on the
20 dependent variable or there's a correlation. And, so, what I
21 understood Dr. Singer to be saying was the variable's biased,
22 whether it's positive or negative effect, because they're
23 correlated with one another and so they're -- the event revenue
24 is not independent. Is that --

25 (Court reporter clarification.)

2:15-cv-01045-RFB-PAL

1 THE COURT: I'm sorry?

2 (Court reporter clarification.)

3 THE COURT: The event revenue is not actually an
4 independent variable. Is that what you're saying, Dr. Singer?

5 THE WITNESS: I did, and I want to make one really
6 important --

7 THE COURT: So, I'm sorry. Is that yes?

8 THE WITNESS: It is. It is a yes. But I want to make
9 one very important --

10 THE COURT: Hold on. Hold on. I want to clarify this.

11 THE WITNESS: Which is, the bias runs throughout the
12 model. It's not just the coefficient on event revenue that I
13 don't trust. That was the one that's nonsensical, 100 percent
14 increase in revenues should be associated with an 8 percent
15 increase in wage levels under competitive circumstances. That's
16 Dr. Topel's. But it's not just that variable that I don't
17 trust. I also think it injects bias on the coefficient of the
18 foreclosure share and we talked about it yesterday. That's the
19 ball game. We want to understand if -- if the foreclosure
20 share, right, going up is -- how that relates to fighter
21 compensation.

22 THE COURT: And that involves --

23 THE WITNESS: I don't trust any of the coefficients --
24 I'm sorry, but I don't trust any of the coefficients that come
25 out of it. Some of them might be biased upward, some of them

2:15-cv-01045-RFB-PAL

1 might be biassed downward. You go through each one of them, but
2 once you inject incorrect endogeneity into regression that way,
3 it contaminates all of the parameters.

4 THE COURT: All right.

5 THE WITNESS: So --

6 THE COURT: So, hold on. I just want to understand.
7 So, that was conversation yesterday about not trying to measure
8 the interaction between the two variables as well, so --

9 THE WITNESS: Well, that's a separate critique. So I
10 offered two critiques. The second -- well, I don't remember the
11 order anymore, but one critique is this endogeneity bias. The
12 second one is that he's assuming away the plaintiff's theory of
13 harm. The plaintiff's theory of harm being that the conduct is
14 messing with the transmission mechanism that would naturally
15 transmit a certain share of event revenues over to the fighters.
16 The plaintiff's theory of harm is that the conduct itself
17 undermined or contaminated that transmission mechanism, and the
18 way that Dr. Topel has set up the model doesn't even allow for
19 that possibility. So those are -- Your Honor, I'd like you to
20 think of those as two separate and independent critiques of
21 Dr. Topel's approach.

22 BY MR. ISAACSON:

23 Q. And in terms of the residual, does an individual athlete's
24 injury at an event depend on the residuals at the event?

25 A. I just -- I don't -- I'm sorry, but I don't understand that

2:15-cv-01045-RFB-PAL

1 question.

2 Q. So when you -- when you calculated the numbers that we were
3 looking at on the injury -- on the impact regression, did the
4 residuals matter?

5 **A.** Yes, the residuals matter.

6 Q. Okay. And ...

7 MR. ISAACSON: The -- can we go to paragraph 162 of his
8 first report?

9 MR. CRAMER: Your Honor, may I remind the witness that
10 he has the complete version of his report in front of him in a
11 book, and if he needs to look at it, he can.

12 MR. ISAACSON: I think he --

13 THE COURT: You have done that, but so ...

14 I guess the answer is yes after the fact, yes.

15 MR. CRAMER: Thank you, Your Honor.

16 MR. ISAACSON: Let's go to -- let's move down there.
17 The -- keep going down.

18 BY MR. ISAACSON:

19 Q. All right. You have there a quote from Kurt Otto of the
20 International Fighters League, and backing up -- back up,
21 Matt -- where it says, "Zuffa's horizontal acquisitions"?

22 **A.** Okay. Sorry. I was just trying to figure out what section
23 of the report that was in.

24 Q. Okay. This is right -- so Zuffa -- you're in the
25 "challenged conduct" section I think, right?

2:15-cv-01045-RFB-PAL

1 **A.** You're right, and I wanted to get to it. Thanks. Okay.

2 **Q.** And you say, "Zuffa's horizontal acquisitions deprive
3 would-be rivals of the required roster." And then you cite a
4 piece of evidence from Kurt Otto of the International Fighters
5 League, which shut down in 2008. And what I want to know is --
6 so we've seen that. Is there any other testimony in your
7 reports that you're aware of where a rival has alleged that the
8 exclusive contracts hurt their ability to compete?

9 **A.** Sure.

10 **Q.** Okay. And what -- what testimony is that?

11 **A.** Scott Coker's testimony.

12 **Q.** Okay. Scott Coker. All right. And --

13 **A.** He was formerly president of Strikeforce and now president
14 of Bellator.

15 **Q.** And that was Coker's testimony from when he was at
16 Strikeforce, not when he was at Bellator, correct?

17 **A.** I don't know what you mean by that. Scott Coker was deposed
18 in this litigation and, so, his testimony whenever he was
19 deposed.

20 **Q.** So the statement you are referring to -- are you aware of
21 any statement from Scott Coker where he said Bellator has been
22 impaired in their ability to compete because of the exclusive
23 contracts of Zuffa?

24 **A.** I think we have many statements from Scott Coker explaining
25 how the challenged conduct impaired a rival's ability to

2:15-cv-01045-RFB-PAL

1 compete, yes. Now, whether he included the word "Bellator" in
2 that statement is -- it's interesting, but I don't know if it
3 undermines the meaning of the statement. And, again, it's very
4 important just to stress that I cite a lot of record evidence in
5 this report, but these citations are meant to corroborate my
6 original empiricism. It is nice that they're all pointing in
7 the same direction.

8 Q. All right. But it -- so, you think you've got some Coker
9 quotes. Anything else?

10 A. I'd have to -- I'd have to look back through the
11 presentation. We skipped certain portions of it yesterday that
12 may have contained quotes from rivals. I'm -- as I'm thinking
13 back, I'm thinking of the Deutsche Bank statements.

14 Q. Talking about statements from rivals.

15 A. Oh, right, right, but I'm just kind of --

16 THE COURT: Mr. Isaacson, I'm not sure why this is
17 relevant because --

18 MR. ISAACSON: Well, I would like to -- I would like
19 to --

20 THE COURT: Hold on. Let me just -- he's an expert as
21 it relates to statistical modelling. Why are you asking him to
22 sort of think of what's in the record that he relied upon? His
23 report will state what the assumptions are. So I'm not sure how
24 this is helpful at all.

25 MR. ISAACSON: Because -- well, because he was saying

2:15-cv-01045-RFB-PAL

1 yesterday that the foreclosure share -- because it -- because it
2 shows foreclosure of an input, the athletes, that that's
3 foreclosure of a rival. All right. And what I'm trying to find
4 out -- so -- because we're going to be talking to Your Honor
5 about this for a while, I think, is whether there is any
6 evidence of foreclosure of a rival, particularly during the
7 class period, and --

8 THE COURT: Well, I think your argument in the report
9 is --

10 MR. ISAACSON: -- so all --

11 THE COURT: -- if you read the contract, they couldn't
12 get out of the contracts. And, so, I didn't understand the
13 report to be saying that -- that the plaintiffs' or Dr. Singer's
14 position was based upon a summation of statements from other
15 individuals or rivals. I understood it to be based upon the
16 impact and effect of that, and also based upon the number of
17 fighters who were essentially locked up.

18 So, I'm not sure why it would matter what he recalls
19 about the number of statements of competitors saying that they
20 were actually foreclosed or not because what matters is whether
21 or not they, in fact, were or were not foreclosed.

22 MR. ISAACSON: Right, because the actual -- the actual
23 foreclosure share does not actually show foreclosure of a rival.
24 It shows foreclosure of an input. And this is very important,
25 Your Honor. Okay. The fact that you have an exclusive

2:15-cv-01045-RFB-PAL

1 contract, all right, does not constitute foreclosure of a rival.

2 There are lots of exclusive contracts. There's more
3 that has to be proven. And, you know, obviously, there aren't
4 any econometrics in here that shows it hurts the profits of
5 rivals, it hurt their ability to enter. None of that is
6 present. All right. And, so, they have tried to say that the
7 way they are proving this are these bank statements, all right,
8 as opposed to the actual statements of rivals.

9 And I just want -- and I'm done with this topic. I
10 wanted to make sure -- I think there's one statement in his
11 report from a rival. He thinks there's another. We'll be able
12 to clarify that in the record. But at this point, okay, under
13 the -- you know, under the law, it is simply not true that --
14 that -- and this goes to the heart of this foreclosure share
15 point, that foreclosure of an input establishes exclusionary
16 conduct or impairment of a rival.

17 THE COURT: Well, and I don't -- and I agree with that,
18 that that's -- but that's not alone at least what is alleged,
19 right? I mean, what's alleged, in addition -- or there's
20 virtual and horizontal conduct that is at least alleged in the
21 context of what the plaintiffs are offering. It's not just
22 about foreclosure share, and I didn't understand that to be the
23 sole argument either.

24 THE WITNESS: No. Your Honor --

25 THE COURT: Hold on just a minute. Hold on.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: I'm sorry.

2 MR. ISAACSON: The foreclosure share is the only thing
3 that attempts to capture the challenged conduct. There is no --
4 okay. He is -- the foreclosure share which is -- which is how
5 they -- which is how they absorb the challenged conduct. It's
6 not all of the challenged conduct obviously. It's the 30-month
7 contracts. But even if you said it was all of the challenged
8 conduct, it's that foreclosure share that is the variable of
9 interest, right, that has the effect on wage share. We don't
10 think wage share matters, but that's the thing that they say has
11 the effect on wage share.

12 The -- if foreclosure share is not actually
13 exclusionary conduct, if it doesn't establish an effect on
14 rivals, you're establishing a relationship between something
15 that is legal and with a dependent variable.

16 THE COURT: So, I -- so, I just want to make sure. So
17 that you're -- you want to be able to at least question
18 Dr. Singer about, notwithstanding potentially the exclusive
19 effect of the contracts, is their actual, quote/unquote, other
20 evidence of the fact that the contracts were exclusionary and
21 locked up the fighters?

22 MR. ISAACSON: I think I've done that, and I'm done
23 with it. I mean, I'm moving on.

24 THE WITNESS: But I -- I want --

25 THE COURT: Hold on -- hold on just a second.

2:15-cv-01045-RFB-PAL

1 Okay. You say you think you're done with that. Why?
2 What have you --

3 MR. ISAACSON: Because --

4 THE COURT: What have you pointed to that indicates
5 that, in fact -- maybe I'm missing something -- that there was
6 movement across the promoters if the contracts didn't, in fact,
7 have an exclusive effect? I mean, the language of the contracts
8 is fairly clear about what it intends to do. And, so, is it
9 your argument -- I just want to make sure I'm understanding. Is
10 it your argument that in order for the plaintiffs to prevail at
11 this stage they'd have to show, I guess by qualitative
12 statements, that individual fighters were in the -- in actuality
13 prevented even if the language of the contracts might have been
14 very potentially exclusive that there's still movement? Is that
15 what you're saying?

16 MR. ISAACSON: That is not the only possible method of
17 proof, but the other methods of proof have not been attempted.

18 THE COURT: And, I'm sorry, and what would those be?
19 Again, I want to make sure --

20 MR. ISAACSON: That would be a study, for example, of
21 the relationship of the conduct to the profits of rivals, to the
22 ability of rivals to enter.

23 We see the rivals getting major TV contracts, getting
24 \$100 million deals. You could study whether they're getting
25 those deals. All right. There are established methods to study

2:15-cv-01045-RFB-PAL

1 whether a rival is actually being impaired, right? All that
2 they're -- they didn't do any of that, right? All there is in
3 the record, all right, are that they've been relying on are
4 statements. Those statements of intent that we were -- that
5 they were talking about yesterday, the bank statements saying we
6 think we've -- you know, we've done something here, all right,
7 but --

8 THE COURT: So your argument then, with respect to
9 Dr. Singer is -- if I'm understanding correctly, is that you
10 don't think that the foreclosure share, even if it captures the
11 control of the fighters, doesn't necessarily in and of itself
12 capture anticompetitive conduct because there's no other
13 evidence that would demonstrate that, in fact, that it excluded
14 access to the fighters or that it impacted the profits or entry
15 of rivals?

16 MR. ISAACSON: Right. And as I think Your Honor knows,
17 every deposition of every current rival, including Mr. Coker at
18 Bellator, all of these -- these companies getting these major
19 deals have said we're getting the fighters, we need we're not
20 impaired in our ability to compete, we don't -- we're not --
21 this is not an issue for us.

22 THE COURT: That's actually not my recollection of the
23 record --

24 THE WITNESS: That's not true.

25 THE COURT: -- so, but, again, I haven't gone back with

2:15-cv-01045-RFB-PAL

1 that in mind and so we can talk about that. I actually don't
2 recall that being sort of the overwhelming statements of
3 particularly the rivals who went out of business who talked
4 about what happened to them and why they went out of business --

5 MR. ISAACSON: I --

6 THE COURT: -- and the inability to be able to be
7 financially solvent, or the fact they're driven out of business
8 by litigation, or the fact that they couldn't acquire -- I mean,
9 there's some of that in the record, too, that I believe, but --

10 MR. ISAACSON: And that's -- as I said, I'm talking
11 about the current rivals during the class period. All right.
12 The -- who are doing just fine, entering, getting major deals,
13 and being deposed about what their views are about their ability
14 to acquire the athletes they need.

15 THE COURT: Okay. So you want to be able to talk to
16 Dr. Singer about that. That's fine.

17 MR. ISAACSON: And I've done that, and I'm done.

18 THE COURT: Well -- well, okay. Well, again, we can
19 all have a conversation about that, too. I just now understand
20 at least why it is that you are asking that and essentially I
21 take your question as relates to Dr. Singer, which to me would
22 be, why not -- or why weren't there other -- or I shouldn't say
23 why weren't there, but there are no other studies other than the
24 study as relates to foreclosure share to establish barriers to
25 entry and to establish the impact of the actual alleged

2:15-cv-01045-RFB-PAL

1 foreclosure. Is that right, Mr. Isaacson?

2 MR. ISAACSON: Okay. All right.

3 BY MR. ISAACSON:

4 Q. So, Dr. Singer --

5 THE COURT: Hold on a second. I'm sorry, Mr. Cramer,
6 did you want to say something?

7 MR. CRAMER: Yes, Your Honor. Mr. Isaacson has been
8 testifying about the record. And I think as you recognized,
9 plaintiffs' view is that he is misstating the record.
10 Your Honor asked us to move on from some of the evidence about
11 harm to rivals coming from Zuffa's own mouth, not what we intend
12 to do, not what may happen in the future, but what happened. We
13 took over the market --

14 THE COURT: So --

15 MR. CRAMER: We dominated the space.

16 THE COURT: So, Mr. Cramer -- Mr. Cramer --

17 MR. CRAMER: We put all our rivals out of business.

18 THE COURT: Mr. Cramer, as I said yesterday, I am aware
19 of the fact that lawyers' statements are not evidence, but
20 Mr. Isaacson and the defendants are permitted to make argument
21 to me about why particular questions are relevant. I asked him
22 to explain it. That's why he did that. But I can -- I can make
23 the distinction.

24 And I have no doubt that the plaintiffs will have their
25 counter-arguments to be raised at some point in time, but I

2:15-cv-01045-RFB-PAL

1 wanted to understand why Mr. Isaacson was asking these questions
2 of Dr. Singer, which I now understand. So, I appreciate it.
3 Thank you.

4 Go ahead, Mr. Isaacson.

5 THE WITNESS: Your Honor, I wasn't -- I don't think
6 I -- I'd even got to --

7 THE COURT: You can respond if you would like to
8 respond. Go ahead.

9 THE WITNESS: -- I got to answer the question, and this
10 is -- this is key, is that the --

11 MR. ISAACSON: I'm not sure what -- I'm not sure what
12 the question was.

13 (Court reporter admonition.)

14 THE COURT: The question, or the implication of your
15 question was, was there any other statistical method or other
16 evidence that would establish that, in fact, the foreclosure
17 share captures the limit on inputs or there was an impact on the
18 rivals. So, that's the question I think that's clearly implied
19 by the statement you made. So it's fair to let Dr. Singer
20 answer that.

21 THE WITNESS: I appreciate that, Your Honor.

22 The record evidence is replete, and I'm going to be
23 very quick, the Deutsche Bank statements, Your Honor, which were
24 made in conjunction with Zuffa itself, state that the contracts,
25 the exclusive contracts served as the, quote, key entry barrier

2:15-cv-01045-RFB-PAL

1 for rivals and that there was no, quote, chance for defection
2 any longer of a key must-have input to rivals. So, the
3 suggestion that the record evidence doesn't -- it doesn't match
4 up with what my regression is trying to capture, which is, was
5 it the exclusive contracts that were serving as an entry
6 barrier, it is all over the record.

7 And if you have -- if I could point you to one thing
8 which is the series of Deutsche Bank documents, the Raine groups
9 have the same thing as well, but --

10 (Court reporter clarification.)

11 THE WITNESS: Raine, R-a-i-n-e. But the Deutsche Bank
12 documents, which were made on behalf of Zuffa and with the input
13 of Zuffa, recognized that the exclusionary contracts themselves
14 served as the, quote, key entry barrier that impaired rival
15 efficiency.

16 So, I was -- I was blanching at the idea that there's
17 no record evidence that speaks to the contracts as being
18 foreclosing. There is -- there is ample record evidence.

19 THE COURT: Okay. Go ahead, Mr. Isaacson.

20 BY MR. ISAACSON:

21 Q. All right. Now, in terms of the causes of rising
22 foreclosure share, you did not perform an inquiry as to the
23 causes or drivers historically of Zuffa's foreclosure share,
24 right?

25 A. I'm not sure I understand the question, but, of course, what

2:15-cv-01045-RFB-PAL

1 causes Zuffa's foreclosure share to move around over time, I
2 think I've already testified to this, are things like
3 acquisitions, things like signing up more and more fighters to
4 these long-term exclusive contracts, to the increasing the terms
5 of the contracts. At some point, Your Honor, as we talked
6 yesterday, there were some fighters under Zuffa, but I didn't
7 deem those contracts to be potentially exclusionary because they
8 didn't carry -- they didn't -- they didn't contain the three
9 elements that I thought were necessary.

10 And, so, the idea that I didn't do a study of the
11 causes, I mean, I've laid out the cause of how -- of what is
12 driving changes in foreclosure share. And then I've plotted
13 what it looks like on the graph and I've shown that it's
14 statistically significantly related to changes in fighter wage
15 share.

16 MR. ISAACSON: All right. With your permission,
17 Your Honor, I just want to show something he said at his
18 deposition and ask him to explain what he just said so I can
19 understand.

20 THE COURT: Okay.

21 BY MR. ISAACSON:

22 Q. This would be 246 of your first deposition. At line 17.
23 Continuing onto 18.

24 THE COURT: Well, can you show me the question?

25 MR. ISAACSON: Show the question, the whole thing.

2:15-cv-01045-RFB-PAL

1 THE COURT: Yes. So, thank you.

2 Can you tell me which figure 3 this is and where this
3 figure is, Mr. Isaacson, so I understand the context of the
4 answer?

5 MR. ISAACSON: Maybe somebody can get that for me, but
6 what I'm focussed on --

7 THE COURT: But is it -- is it in that -- is it from
8 one of Dr. Singer's reports?

9 MR. ISAACSON: Yes. Yes.

10 THE COURT: Okay.

11 MR. ISAACSON: Yeah.

12 THE COURT: So, is it the original --

13 MR. ISAACSON: It's figure 3 from his first report, I
14 assume.

15 THE COURT: Okay. Hold on. Let me see if I can --

16 MR. ISAACSON: At this point, I only have his first
17 report, so it must be.

18 THE COURT: Okay. All right. I just -- I want to make
19 sure I'm understanding the context. That's why I wanted to ask
20 you that, to see if I could find that and then I can pull it up.

21 MR. ISAACSON: It's page 115.

22 THE COURT: Okay. Let's see ...

23 MR. ISAACSON: Yeah. It's that chart, Your Honor.

24 THE COURT: Okay. All right. Go ahead. Let me -- let
25 me --

2:15-cv-01045-RFB-PAL

1 BY MR. ISAACSON:

2 Q. All right. So pretty similar to the other chart we're
3 looking at?

4 A. No, Dr. -- no, Mr. Isaacson. No.

5 Q. Well, can I just ask a question?

6 A. But the premise, again, is -- we did this yesterday.

7 THE COURT: Okay. Well, hold on. Let him ask the
8 question.

9 THE WITNESS: All right. Okay.

10 BY MR. ISAACSON:

11 Q. "You told me that I did not perform an inquiry as to the
12 causes or drivers historically of a foreclosure share."

13 (Court reporter clarification.)

14 MR. ISAACSON: "I did not perform an inquiry as to the
15 causes or drivers historically of a foreclosure share. One
16 could do that. It sounds like there would be an another
17 econometric exercise."

18 Now, would you explain -- reconcile that with your
19 previous answer to the Court?

20 THE WITNESS: Sure, and I think you have to look at the
21 word "clause" in your question. And if I -- and if I recall
22 correctly, I think what you were asking me is if I had done a
23 decomposition to determine whether certain clauses within the
24 contract -- you know, recall there were three important clauses
25 that I was looking for -- if certain clauses -- what were those

2:15-cv-01045-RFB-PAL

1 individual contributions to foreclosure share changes and did I
2 ever try to look at how important one clause was in relation to
3 another. And I think I said that would be an interesting
4 academic exercise.

5 But, no, I required all three of these elements:
6 exclusivity, a champion's clause, and the right-to-match clause
7 to be -- to be important before I -- before I deemed something
8 to be potentially exclusionary and, therefore, contribute to
9 foreclosure share.

10 BY MR. ISAACSON:

11 Q. I'm confused because a few moments ago I asked you, "Now, in
12 terms of the causes of the rising foreclosure share, you did not
13 perform an inquiry as to the causes or drivers historically of
14 Zuffa's foreclosure share." And you gave me a long answer and
15 you said, "So, the idea I didn't do a study of the clauses, I
16 mean, I've laid out the cause."

17 So I'm not -- I'm confused. You seem to be saying you
18 have -- on the one hand, that you did not perform an inquiry of
19 the clause?

20 THE COURT: So, Mr. Isaacson, let's step back. Part of
21 the -- what's clear about the report is what's driving it also
22 is acquisition. So I'm not clear what you're saying about
23 what's driving the foreclosure. The foreclosure share is a
24 measure of the fighters that Zuffa controls versus the fighters
25 in the market. And what Dr. Singer has said, repeatedly, is as

2:15-cv-01045-RFB-PAL

1 they acquire control over more fighters, they increased their
2 ability to lock those fighters up. So, I'm not sure what --
3 when you're saying "the driver of a foreclosure share" what you
4 mean by that, other than that description about acquisition.

5 MR. ISAACSON: Right. So, he did not do, up until --
6 suggest, we believe, until this hearing that he had done any
7 study or said what the causes were of the foreclosure share,
8 other than there's 30-month contracts, but --

9 THE COURT: Well, okay. Okay. I'm sorry, but --

10 MR. ISAACSON: And also with respect to this
11 acquisition --

12 THE COURT: Well, Mr. Isaacson, stop -- stop, please.

13 (Court reporter admonishment.)

14 THE COURT: When you say "cause of foreclosure share,"
15 I don't understand what you mean outside of the context of the
16 sort of acquisition. So are you saying -- because the report
17 talks about how, as Zuffa was able to control more fighters,
18 that increased their foreclosure share. And the report says
19 that explicitly. So, are you talking about something other than
20 that?

21 MR. ISAACSON: Yeah, because he's now tried -- other
22 than the 30-month -- control of fighters is 30-month contracts.
23 It's not -- it's not acquisitions. In fact, he's testified that
24 he doesn't have an opinion about whether the acquisitions are
25 anticompetitive apart -- if they're not linked to the 30-month

2:15-cv-01045-RFB-PAL

1 contracts. And, in fact, that chart, which is revenue weighted,
2 is being driven by the change in revenue weighting, and we think
3 some other things, and not just the fact that there's an
4 acquisition.

5 So, we don't think -- and, you know -- and this is the
6 kind of thing that hopefully will be aired out when we put these
7 pieces of testimony together after this hearing. But we don't
8 think that he has done the type of study where all of a sudden
9 he's saying now I know the causes of this. And I think I'm done
10 with this --

11 THE COURT: Do you recall -- okay. The --

12 MR. ISAACSON: I think I've done this line of inquiry.
13 He's given his explanation.

14 THE COURT: No, but -- but you're -- but I don't
15 understand why you're saying or what you're saying about "cause
16 of foreclosure share" apart from the acquisitions. Are you
17 saying that there's -- that there are other causes that relate
18 to the -- this particular chart that are not described? I don't
19 understand because the model's based upon acquisition -- I
20 shouldn't say acquisition -- control under the contracts. He's
21 defined when a particular fighter would be placed in the
22 numerator of the sort of foreclosure share.

23 MR. ISAACSON: Foreclosure share is being principally
24 driven by two things: One is just the count of 30-month
25 contracts, and --

2:15-cv-01045-RFB-PAL

1 THE COURT: I'm sorry. I couldn't hear you.

2 MR. ISAACSON: One is the count of 30-month contracts,
3 and two is the revenue weighting. That's what's driving the
4 foreclosure share. It's not being caused by market factors or
5 anticompetitive conduct.

6 THE WITNESS: Can I respond?

7 THE COURT: Okay. So -- okay. So -- hold on a second,
8 Dr. Singer.

9 THE WITNESS: That's not true.

10 THE COURT: So -- okay, but hold on.

11 But -- okay. But when you say "historically what's
12 driving the foreclosure share," what I understand you to be
13 saying is -- now, is that you don't think the foreclosure share
14 establishes anticompetitive conduct. That's separate from
15 saying that the model doesn't explain what the basis for the
16 foreclosure share is. And what I understand you to be saying,
17 Mr. Isaacson, is you can model it this way. That doesn't
18 necessarily mean that the foreclosure share represents
19 anticompetitive conduct.

20 MR. ISAACSON: Right.

21 THE COURT: Is that what you're saying?

22 MR. ISAACSON: I have been saying that for a number of
23 different reasons and this is an additional one.

24 THE COURT: Okay. That -- I'm just trying to
25 distinguish between, again, when you talk about what causes

2:15-cv-01045-RFB-PAL

1 historically the foreclosure share, Dr. Singer's talked about
2 sort of the ability of Zuffa to bring fighters under its sort of
3 contract -- contracts as what was the basis for the foreclosure
4 share. All right? And, so, when you said what's driving it
5 historically, I think he's explained that, but I also understand
6 now what it is that you're trying to --

7 MR. ISAACSON: Right.

8 THE COURT: -- I think, argue in that context.

9 MR. ISAACSON: I think what's driving is the contracts.
10 Let me give you an example.

11 So, one -- one type of challenged conduct --

12 THE WITNESS: Can I respond to your last question?

13 THE COURT: Hold -- hold on. Hold on. Let -- hold on.
14 Hold on, Dr. Singer.

15 BY MR. ISAACSON:

16 Q. So, one type of challenged conduct in this case is signing
17 fighters to new contracts for higher amounts of money, new or
18 renewed contracts, right?

19 **A.** That's not a type of challenged conduct.

20 THE COURT: Okay, but let him finish, Dr. Singer.

21 MR. ISAACSON: I'm sorry, you said what?

22 THE WITNESS: He said the challenged conduct --

23 THE COURT: Well, Dr. Singer, let -- let. Okay.
24 Here's what I want to happen.

25 (Court reporter admonition.)

2:15-cv-01045-RFB-PAL

1 THE COURT: I know.

2 Dr. Singer, you really have to wait.

3 THE WITNESS: Right. I'm sorry.

4 THE COURT: I can understand why you want to respond,
5 but you really have to wait for him to finish the question.

6 Go ahead, Mr. Isaacson.

7 BY MR. ISAACSON:

8 Q. All right. Well, let me look at paragraph 78 of his first
9 report.

10 MR. ISAACSON: Paragraph 78. I don't have the -- ah,
11 there we go.

12 BY MR. ISAACSON:

13 Q. Now, this is from the challenged conduct section of your
14 report, right?

15 **A.** Yes, it is, the nature of the challenged conduct.

16 Q. Right. And, so, one of the pieces of plaintiffs' challenged
17 conduct, record evidence indicates that Zuffa typically opened
18 negotiations for a contract renewal before a fighter's existing
19 contract had expired, and it goes on to talk about how they
20 would sign fighters to new contracts.

21 Now, the new or renewed contract would increase
22 foreclosure share because now you'd have a new 30-month -- if it
23 was a 30-month contract, you'd have a new 30-month contract,
24 right? Or at least it would be part of your foreclosure share.

25 **A.** If Zuffa brings over the fighter and locks it into a

2:15-cv-01045-RFB-PAL

1 long-term exclusive contract that contains the other elements
2 that I'm looking for that are indicative or related potentially
3 to exclusionary conduct, then that would contribute to an
4 increase in the foreclosure share.

5 Q. Right. So -- and you don't know how much of your
6 foreclosure share is accounted for by these new and renewed
7 contracts that are 30 months or longer, right?

8 A. I think I do.

9 Q. Okay. What portion --

10 THE COURT: Hold on. Let me ask a question. I thought
11 the foreclosure share is based upon weighted as relates to an
12 individual fighter. So why would it matter whether or not they
13 sign a new contract because it would just be the duration that
14 they're in the numerator in the foreclosure share?

15 THE WITNESS: Oh, I assumed from Mr. Isaacson's
16 question that Zuffa was acquiring a fighter who was outside of
17 the Zuffa organization.

18 THE COURT: No, I think what he's talking about is a
19 fighter who's already there --

20 MR. ISAACSON: Right.

21 THE COURT: -- and in that case I don't know that it
22 changes the numerator at all. It just extends the period in
23 which that person is going to be listed --

24 THE WITNESS: Correct.

25 THE COURT: -- in the numerator --

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Correct.

2 THE COURT: -- for the foreclosure share.

3 BY MR. ISAACSON:

4 Q. But you have different numerators, denominators at different
5 periods of time, so --

6 THE COURT: No. No, but the numerator's based upon an
7 individual fighter weighted. So if they get added on for a new
8 contract, the time that they're in the numerator is going to be
9 extended as I understand the model. Is that right?

10 THE WITNESS: Correct.

11 MR. ISAACSON: At a specific event. So -- so, if,
12 2012, you're under contract 1. 2016, you're under contract 2.

13 THE COURT: Right.

14 MR. ISAACSON: Okay. That's what I'm talking about.

15 BY MR. ISAACSON:

16 Q. Part of your foreclosure share is that renewed -- that new
17 contract -- part of your foreclosure share in 2016 is that new
18 contract?

19 THE COURT: No, because the person doesn't drop out of
20 the foreclosure share.

21 MR. ISAACSON: There's a -- there's a foreclosure share
22 per event.

23 THE WITNESS: That's not true.

24 THE COURT: No. No. The foreclosure share's --

25 MR. ISAACSON: Right. I mean, I'm sorry, a

2:15-cv-01045-RFB-PAL

1 calculation -- a foreclosure.

2 THE WITNESS: That's not true.

3 MR. ISAACSON: It's the average foreclosure share.

4 THE COURT: No. It's based upon the fighter.

5 THE WITNESS: We update the foreclosure share every
6 month, but we do not estimate a new foreclosure share for a
7 given event.

8 THE COURT: And maybe I misunderstood --

9 MR. ISAACSON: You're right. You're right.

10 THE COURT: -- hold on.

11 Dr. Singer, isn't the foreclosure share based upon the
12 fighter's weighted in the numerator. So I want to make sure,
13 it's not as if -- if a fighter gets a new contract, they get
14 doubly counted in the numerator?

15 THE WITNESS: Correct.

16 MR. ISAACSON: I'm not suggesting double counting.

17 THE COURT: Okay. So, maybe I'm --

18 MR. ISAACSON: Right.

19 BY MR. ISAACSON:

20 Q. But the amount of time that a fighter is covered by 30-month
21 contracts, that increases, right?

22 A. If a fighter signs a new contract?

23 Q. Right.

24 A. I think that -- just to make sure we understand what the
25 foreclosure share is doing, it takes -- for a given month, it's

2:15-cv-01045-RFB-PAL

1 going to look at all fighters in the relevant market -- nine
2 months looking backwards and nine months looking forward -- and
3 you can't get into the numerator unless you were a Zuffa
4 fighter. And you can't stay in the numerator unless you fought
5 pursuant to a long-term exclusive contract that contained the
6 champion's provision and the right-to-match provision.

7 So, if a fighter re-ups, that is going to -- whenever
8 we take a new snapshot of a foreclosure share, that fighter is
9 going to be considered foreclosed.

10 Q. Okay.

11 THE COURT: Unless they didn't fight.

12 THE WITNESS: They will have -- correct, Your Honor.
13 They will have needed to fight. We don't consider them to be in
14 the market -- this is a technicality. You could have a ranking
15 in the top 650 and go quiet for a long period of time. And, so,
16 we want to make sure we're using a second database -- this is
17 the Sure Dog database -- and make sure that you actually were
18 active in the market. And to do that, you had to have fought
19 either within a nine-month before or nine-month after look at a
20 given point in time which we're calculating the foreclosure
21 share.

22 THE COURT: So, in other words, there could be someone
23 dropping out if they actually went inactive for -- or over 18
24 months?

25 THE WITNESS: Exactly, but they would be dropping out

2:15-cv-01045-RFB-PAL

1 of both the numerator and the denominator.

2 THE COURT: Okay. All right.

3 BY MR. ISAACSON:

4 Q. The --

5 MR. ISAACSON: Can we go to Table 1 of his second
6 report, "Fighter Career Duration."

7 MR. CRAMER: What page was that on?

8 MR. ISAACSON: 1 -- page 53.

9 MR. CRAMER: Thank you.

10 MR. ISAACSON: The table at the top.

11 BY MR. ISAACSON:

12 Q. And I can't -- you showed at least part of this to the court
13 yesterday, the part for ranked measure, the median and the mean
14 of 1.33 and 2.55. This would be your -- when you were
15 calculating a fighter career duration for the ranked market.

16 **A.** Yes. I remember the 2.55 being in the summary table from
17 yesterday, yes.

18 Q. Right. Right. And the -- this does not count all of the
19 bouts in an MMA fighter's career, does it? It only includes the
20 bouts that happened while they are in the ranked market?

21 **A.** For that row, you're correct. If you exit the relevant
22 market -- for example, if -- we're not going to count the time
23 that you were in the minor leagues, or the time that you were
24 unranked, or the time you were in high school or training, in
25 college, we're not going to count that time. We're only going

2:15-cv-01045-RFB-PAL

1 to count the time that you're in the relevant market.

2 Q. Excluding high school and college, though, I'm not aware
3 of -- is there MMA in high school? The -- but in terms of your
4 professional career, right, this is not all of your professional
5 bouts; this would -- only takes into account your professional
6 bouts while you're within the ranked market?

7 A. Correct. If you were to fall out of the ranked market, we
8 would consider that to be the ending of your career length.

9 Q. And this average is not just fighters who were with Zuffa at
10 some point, correct?

11 A. Correct. It's for every -- it's for every fighter in the
12 relevant input market, in this case the ranked market.

13 Q. So it includes fighters who might have had one or two fights
14 in what plaintiffs have called minor leagues that are in -- if
15 they were ranked fighters?

16 A. Oh, if they were ranked fighters, yes, we would include
17 them, regardless of their promotion, with the caveat that the
18 promotion was performed -- the event was performed in North
19 America.

20 Q. All right. So, just to be clear, so if -- if I fight for a
21 minor league and I'm ranked 600, then that's -- that is -- and I
22 just have one or two fights and then my career is over, that's
23 included in your calculation of the average?

24 A. If you one time -- if I'm hearing you right, if you one time
25 obtained a rank in the top 650 and then you stopped fighting?

2:15-cv-01045-RFB-PAL

1 Is that what you're asking me?

2 Q. Yes.

3 **A.** Then we would measure when you -- when you started in the
4 ranks and when you exited either by -- either by ending your
5 fighting career or by dropping out of the rankings, regardless
6 of who your promoter was. And just to be clear, we're capturing
7 the importance of the promoter identification in the tracked
8 measure. That's going to track who FightMetric thought were the
9 most worthy promoters in MMA.

10 Q. I'm just talking about the ranked market that you presented
11 to the Court. The -- if you are ranked 600, fight one or two
12 fights with a what you call a minor league and your ranking
13 drops to 700 and you fight for 10 more years, those 10 years are
14 not included in your averaging, right?

15 **A.** I think that's fair. If you're out of the market, we're not
16 counting that as your career length.

17 Q. All right. The -- can we look at paragraph 172 of your
18 first report, which is -- I don't have a page number. Sorry.

19 All right. In 172 you say, "The 30-month threshold is
20 conservative given that antitrust scholars have found that
21 exclusive contracts longer than 12 months in duration can have
22 anticompetitive effects depending on the industry," Footnote
23 442. And if you pull up -- pull up 442.

24 Okay. And the antitrust scholars you're referring to
25 are the legal treaties, Areeda and Hovenkamp?

2:15-cv-01045-RFB-PAL

1 **A.** I cite to Areeda and Hovenkamp there, yes.

2 MR. ISAACSON: Now, Your Honor, we think once you go
3 into Areeda and Hovenkamp, this whole position falls apart.
4 However, I don't think you want me cross-examining him on legal
5 points.

6 THE COURT: I do not.

7 MR. ISAACSON: Right. So I'm going to move on, but
8 this is the sort of thing that I think we need to explore based
9 on just this foundation having been set when we have the
10 opportunity to discuss these things longer.

11 BY MR. ISAACSON:

12 Q. All right. The -- now, in terms of your revenue weighting,
13 I think you used the term "not all fighters are created equal,"
14 or maybe it was the Court, but you are using -- you use your
15 revenue weighting to reflect difference in the average quality
16 of fighters across the different MMA promoters. Is that right?

17 **A.** Correct, when I used the revenue weighting. As you know, I
18 do many weightings and I do it unweighted, but when I do the
19 revenue weighting, I'm using -- to weight the pool of fighters
20 for a given promoter, I'm using the average revenue per event
21 for that promoter.

22 Q. All right. And for your revenue weighting for each of --
23 you calculated a single average per year based on the total
24 amount of Pay-Per-View and live gate revenue divided by the
25 number of events in the year?

2:15-cv-01045-RFB-PAL

1 **A.** I think it was more than that. I think I included any --
2 any revenues that could be associated with the event in
3 question.

4 **Q.** Any revenues?

5 **A.** That could be associated with the event in question. So if
6 you had a long-term, say, broadcast contract that didn't -- that
7 didn't -- couldn't be associated with a particular event, that
8 wouldn't be counted.

9 **Q.** I'll come back to that. But what you did was you calculated
10 a single average per year and divided that by the number of
11 events in the year, right?

12 **A.** I took an average of the revenue per event, including all of
13 the revenues that I included.

14 **Q.** Right. So you calculated one average for all of the Zuffa
15 events in the year and one average for all the non-Zuffa events?

16 **A.** That's not true.

17 **Q.** Or for what -- what did I get wrong?

18 **A.** Can I help you?

19 **Q.** Yeah.

20 **A.** Whenever I had the data that would allow me to make it
21 promoter specific, I made it promoter specific. When I didn't
22 have the data, for the really small promotions, I -- to be
23 conservative, I gave them the weight of the larger promotions
24 that provided the data.

25 **Q.** Okay. But for the Zuffa events, you calculated one average

2:15-cv-01045-RFB-PAL

1 for each year?

2 **A.** That is correct. There was a single revenue weight for each
3 year.

4 **Q.** Right. And for the non-Zuffa events, you used one average
5 for each year using what the -- what you -- the weight and you
6 just gave a description about how you did that as -- if you did
7 of certain data?

8 **A.** If I had the promoter's data, I used that promoter's data.
9 If I didn't have it, I used the -- an average of the promoters
10 that I did have.

11 **Q.** All right. So, the -- under your weighting scheme then,
12 every Zuffa fighter at a Zuffa event received the same
13 weighting?

14 **A.** That's -- you could think of it that way, but I think a
15 better way to understand it is that you take the entire pool of
16 Zuffa fighters and you're going to apply a single weight. So,
17 yes, it's true that each fighter is getting hit with the same
18 weight, but I think that a more intuitive way to understand what
19 I'm doing is I'm trying to come up with a weight for the entire
20 pool.

21 **Q.** Right, but I just want to understand mathematically what's
22 true. So that if Conor McGregor is at an event, he's going to
23 receive the same revenue weighting as with the lowest ranked
24 fighter at the event on the -- on the undercard?

25 **A.** I think that for my revenue weight, you are correct that I'm

2:15-cv-01045-RFB-PAL

1 not making distinctions for the relative rankings. But,
2 however, for my ranked weighting, I do make distinctions for the
3 relative ranking.

4 Q. So -- but if there's a fighter at the event who's being paid
5 \$5 million and a fighter at the event who's being paid \$100,000,
6 you're going to give each of them the same revenue weight?

7 A. For the -- for the revenue rank -- for the revenue weighting
8 approach, that is correct. There are not differences that vary
9 by the fighter rank or by the fighter compensation. However,
10 for the ranked weighting, I do take account of the possibility
11 that fighters within the Zuffa pool could be worth different
12 amounts.

13 Q. Can I -- just want to clarify something. Paragraph 309 of
14 your first report, can we do that?

15 A. This is Footnote 309, perhaps?

16 Q. No. No. Paragraph 309.

17 A. My first report only goes up to 291.

18 Q. Oh, is this -- I have SR1, paragraph 309, page 208.

19 A. I don't have it. I'm sorry.

20 Q. I've given you a binder with your reports, too.

21 THE COURT: I'm sorry, this is what report then?

22 MR. ISAACSON: Is this SR1?

23 THE WITNESS: No. I don't -- I used double spacing, so
24 it can't be for my report.

25 MR. CRAMER: It's a footnote.

2:15-cv-01045-RFB-PAL

1 BY MR. ISAACSON:

2 Q. I guess this is your appendices. Your paragraphs continue
3 into your appendices.

4 **A.** I think it might be a footnote.

5 Can I see?

6 Q. All I can see on the screen it says paragraph 309.

7 THE COURT: But that looks different in terms of the
8 spacing in the --

9 THE WITNESS: Let me look at footnote 309 to help you
10 out.

11 MR. CRAMER: It's page 208.

12 MR. ISAACSON: Page 208.

13 MR. CRAMER: The appendix.

14 MR. ISAACSON: Page 208.

15 MR. CRAMER: The appendices.

16 BY MR. ISAACSON:

17 Q. You have an appendix that continues onto page 208.

18 **A.** I got it. Thanks.

19 Q. And in the middle, you say, "One average is calculated for
20 Zuffa and another for non-Zuffa promoters."

21 All right. That's a correct statement?

22 **A.** My recollection sitting here was that if I had the data for
23 a specific promoter, I used that promoter's revenue. If I
24 didn't, I used the average of the non-Zuffa promoters that I
25 had.

2:15-cv-01045-RFB-PAL

1 Q. All right. So, let me just give you an example of how this
2 would work. There's a fighter named Cheick Kongo and his last
3 bout with Zuffa was April 2013. And then he competed for
4 Bellator in October of 2013. When he -- that fighter, in April
5 of 2013, competed for Zuffa, he would have gotten the Zuffa
6 revenue weighting, and when he competed for Bellator, he would
7 have gotten the Bellator revenue weighting.

8 A. I think it's fair to say that when you're with Zuffa, you
9 get the Zuffa weight, and when you're with non-Zuffa, you get
10 the non-Zuffa weight, but also -- this is a very important
11 point. One fighter changing is not going to move the needle on
12 the foreclosure share. Remember, what we're doing to get the
13 weight, is we're taking the pool of Zuffa fighters and we're
14 hitting that pool by the average revenue per event for Zuffa.
15 And then we're taking and then we're looking at the pool of
16 fighters for all other promotions and weighting it by there.
17 And, so, we're talking about thousands of -- thousands of
18 fighters in the ranked market. And, so, you're asking me if one
19 person moves, could that -- could that cause you to get a
20 strange or unreliable estimate? I mean, would that have --

21 Q. No.

22 A. -- some -- would that have some disproportionate or unfair
23 effect on the weights, and I would say it wouldn't have any
24 effect. It would be immaterial.

25 Q. I appreciate you saying that, but what I'm saying is not any

2:15-cv-01045-RFB-PAL

1 of that. It's the revenue weighting is very important. And --
2 and, for example, in the ranked market, if you just go by head
3 count, Zuffa's share of the ranked market never gets above 22
4 percent, right?

5 **A.** In which market? I'm sorry.

6 **Q.** The ranked market.

7 **A.** In the -- in the ranked market, if you expand the pool to
8 include thousands of fighters, including those from 1 to 650,
9 you have to apply some weight. And you said something that
10 wasn't true and I --

11 **Q.** I -- would -- could you --

12 THE COURT: Hold on a second. So let me make sure I
13 understand. Are you saying in the ranked market, which I
14 thought was 1 to 650?

15 THE WITNESS: Yes.

16 THE COURT: So in that market, is it --

17 THE WITNESS: Okay.

18 THE COURT: -- do you have a separate figure that just
19 identifies how many of those fighters were Zuffa fighters in
20 this period of time?

21 THE WITNESS: Oh, yes. And, Your Honor, I just want to
22 make sure, it's more than 650, right? Because it's 650 by
23 weight class by gender. So, it explodes.

24 THE COURT: So by gender and across the period, so --

25 THE WITNESS: Right.

2:15-cv-01045-RFB-PAL

1 THE COURT: -- there are people who will come in and
2 out.

3 THE WITNESS: And it's important -- they're not
4 symmetric; they're -- my understanding is there are more weight
5 classes for men than there are women --

6 THE COURT: Right.

7 THE WITNESS: -- but it's a huge, huge pool. And
8 Mr. Isaacson said --

9 THE COURT: So -- I'm sorry. So, again, I want to make
10 sure I understand the term. So it's 1 through 650 for each
11 weight class for both genders?

12 THE WITNESS: Both genders, yes.

13 THE COURT: How many weight classes, approximately?

14 THE WITNESS: I don't know off the top of my head. I'm
15 going -- I would just be guessing, but a lot. There are a lot
16 of weight classes.

17 THE COURT: When you say "a lot," more than 10?

18 THE WITNESS: More than 10. I think there's more than
19 10, but for women, it might be fewer than 10. But I can't -- I
20 can't do it by memory. But I -- but Mr. Isaacson said something
21 that the revenue -- I think you said -- your quote was --

22 THE COURT: Hold on. Hold on, Mr. -- Hold on,
23 Dr. Singer. So, assuming, for example, it's 10 weight
24 classes --

25 THE WITNESS: Okay.

2:15-cv-01045-RFB-PAL

1 THE COURT: -- you would be talking about at least
2 1,300 fighters per weight class, right? So you're talking about
3 13,000 fighters, right?

4 THE WITNESS: Potentially. Potentially. I showed you
5 on average how many -- remember in that slide I showed you the
6 number --

7 THE COURT: Right.

8 THE WITNESS: -- of the fighters, but it's in the
9 thousands at any point in time.

10 THE COURT: No. But I'm saying, if you're talking
11 about the number of people who would be within the range of 1 to
12 650, if there were 10 weight classes, you're talking about
13 13,000 fighters?

14 THE WITNESS: If you had it symmetrically, men and
15 women, that is correct, you'd get up to 13,000. But let me --
16 let me just make this point. This is really important because
17 you said the revenue --

18 MR. ISAACSON: Can I -- can I -- I'd like --

19 THE WITNESS: No. But I didn't -- I never got to
20 answer his question.

21 THE COURT: Go ahead, Dr. Singer.

22 THE WITNESS: You said the revenue was critically
23 important --

24 MR. ISAACSON: That was not my question.

25 THE WITNESS: -- to my results, and I've shown you time

2:15-cv-01045-RFB-PAL

1 and time again --

2 THE COURT: Okay, but --

3 THE WITNESS: -- that you take out the revenue weights
4 and all the results hold. So I -- I --

5 MR. ISAACSON: I would like --

6 THE WITNESS: -- I blanch at this idea that --

7 THE COURT: Well, so -- but let him -- that's his job,
8 is to try to do what he can to make these arguments, so -- I'm
9 sorry, go ahead.

10 BY MR. ISAACSON:

11 Q. No. I just -- I just want a fact. Okay. By head count,
12 right, Zuffa's share of the ranked market never gets above 22
13 percent, correct?

14 A. I don't know if I've calculated the unweighted for the
15 ranked, and I could tell you it wouldn't make sense to do so as
16 an economic matter because it would be crazy --

17 THE COURT: Yes, but it's just a straightforward
18 question.

19 THE WITNESS: Yeah. I've never calculated it so I
20 can't say it never gets above 22 percent, but it wouldn't
21 surprise me given how big the ranked market is.

22 BY MR. ISAACSON:

23 Q. And then the amount of ranked market in your class -- in the
24 class, when you -- when you're doing injury, I believe was --
25 what did you say it was? 1,500 something? 1,514?

2:15-cv-01045-RFB-PAL

1 **A.** No. 1,214.

2 **Q.** 1,214. So when you calculate the number of ranked fighters
3 in the class, it's 1,214, right?

4 **A.** No. I would say that the number of fighters in the class
5 was 1,214. I don't think that varied -- oh, that's right.
6 Those would have to show up in the regression data set in order
7 for us to make predictions about them.

8 THE COURT: So the 1,214 -- or the 1,200 number comes
9 from where exactly?

10 THE WITNESS: So it would include all of the class
11 members who appear in the data set that's used for the
12 regression analysis for the ranked relevant market.

13 THE COURT: Okay.

14 BY MR. ISAACSON:

15 **Q.** All right.

16 THE COURT: So, for the -- so, and that it would be --
17 again, that would be whom exactly, just so I understand how you
18 get to the 1,200 number versus the thousands that we had
19 referenced earlier?

20 THE WITNESS: Right. So what's going to happen,
21 Your Honor, is that the different -- different markets --
22 different markets are going to constrict or expand the database
23 that gets used for the regression analysis. And you're not
24 going to be able to go back and make a prediction about what a
25 Zuffa fighter would have made unless he or she enters the

2:15-cv-01045-RFB-PAL

1 database. And that's why you're getting different numbers --
2 numbers of -- of potentially impacted class members. The
3 important takeaway, however, is that for each -- each cut that I
4 run, it's the percentage of class members that are -- that
5 are -- that suffer impact. That's the key takeaway; not the --
6 not the raw number.

7 BY MR. ISAACSON:

8 Q. All right. And there are years where the difference between
9 the Zuffa and the non-Zuffa events, in terms of weighting,
10 are -- particularly recent years, 17 times higher for Zuffa than
11 the non-Zuffa events? Sometimes it's above 80 times higher,
12 right?

13 A. You're asking me about the revenue weighting.

14 Q. The relative revenue weighting between Zuffa and non-Zuffa.

15 A. For the revenue weighting approach, say in the ranked
16 market, there are times in the class period where the ratio of
17 Zuffa's average revenue per event is significantly above the
18 average revenue per event of a -- of a small promoter. Of
19 course.

20 Q. Including -- and the small promoters you're including in
21 this are Bellator?

22 A. No. I'm including -- my ranked market definition
23 includes -- we showed you yesterday -- hundreds of promoters,
24 not just Bellator.

25 Q. Okay. Now, you mentioned that the revenue weighting is by

2:15-cv-01045-RFB-PAL

1 Pay-Per-View gate revenues and any revenues associated with the
2 event and would exclude broadcast TV, correct?

3 **A.** I believe so, yes.

4 **Q.** All right. So, Bellator, which is owned by Viacom, is
5 broadcast on Spike TV, their broadcast revenues are not being
6 used in the -- the broadcast revenues that either go to Bellator
7 or Viacom are not in your --

8 THE COURT: Mr. -- Mr. Isaacson, you can't --

9 BY MR. ISAACSON:

10 **Q.** -- revenue weighting?

11 THE COURT: -- testify about who these people are. If
12 you want to bring that in, about Bellator is owned by this or
13 revenue go to that --

14 MR. ISAACSON: That's in -- that's in his report and --

15 THE COURT: Okay. Well, if he's -- if you're asking
16 him to confirm that, again, if you want to get to the shorthand,
17 I just -- again, I just want to make sure that we get that out
18 of the witnesses.

19 MR. ISAACSON: I think this --

20 THE COURT: I don't dispute that that's what his
21 information is, but I just want to be clear about his testimony.

22 MR. ISAACSON: I don't -- yeah, I think everybody
23 agrees that Bellator's owned by Viacom.

24 THE COURT: Well, I wasn't sure if you were saying
25 there was a certain amount of revenue was going to that. I

2:15-cv-01045-RFB-PAL

1 wasn't sure where that question was going to end up. I just
2 wanted to try to make sure that you have him --

3 MR. ISAACSON: I am making the assumption the TV
4 contract is -- does have money attached to it, yes. But the --
5 but what I'm just saying is, the TV contract money for the
6 companies that have broadcast deals instead of Pay-Per-View
7 deals are not going into the revenue weighting, right?

8 THE WITNESS: If -- I believe that's the case for --
9 the broadcast revenue can't be associated with a particular
10 event, we can't use it in our average revenue per event
11 calculation.

12 MR. ISAACSON: Right.

13 THE WITNESS: But I should also note one other thing.
14 These broadcast revenues are teeny in comparison to the revenues
15 that Zuffa is throwing off, so ... Where I'm hearing -- what
16 I'm hearing, the question is, had I brought those broadcast
17 revenues in, that that would somehow affect the measure of
18 Zuffa's footprint in this market is -- is absurd.

19 BY MR. ISAACSON:

20 Q. All right. Well, there -- you know how much the ESPN deals
21 are, the Spike TV deals are with, for example, Bellator or ONE?

22 A. You mean ESPN's deal with Zuffa I know about.

23 Q. No. No. For the non-Zuffa promoters.

24 A. I know about some of those deals.

25 Q. Okay.

2:15-cv-01045-RFB-PAL

1 **A.** The ones -- the very recent deals that occurred outside of
2 the class period --

3 **Q.** And those are the kind of things that would be --

4 **A.** -- that you submitted a report about?

5 **Q.** Those would be excluded from your revenue weighting?

6 **A.** If a deal occurred after my study period, then, yes, I
7 confess, I did not include it in my analysis.

8 **Q.** All right. Now, if I can ask you to look at -- let's see if
9 I can do this easily -- ZCX292 at page 7.

10 This is a piece of your backup. We went over this at
11 your deposition. This goes to how you did the revenue weighting
12 for non-Zuffa events. And I'm just going to use one year as an
13 illustration, 2012. And if you can do the World Series of
14 Fighting line ...

15 All right. That was your only non-Zuffa event for
16 which you had total revenues that year. And, so, your revenue
17 weighting for all the non-Zuffa events were based on the average
18 for the World Series of Fighting from that one event, right?

19 **A.** I don't know if that's true because there are -- you can see
20 the spreadsheet goes on and on. I'm not sure that that's the
21 only data point that we had in 2012.

22 **Q.** I can assure you it's the only one that reports -- for 2012
23 that reports a revenue amount for -- for 2012, and I believe
24 that when you divide it by the number of -- and when you take
25 that event and divide it by the number of fighters, you get the

2:15-cv-01045-RFB-PAL

1 exact revenue weighting you used.

2 But setting that aside, that's the method you used. If
3 you had only one non-Zuffa event, or two or three non-Zuffa
4 events, that's how you did the weighting for all the non-Zuffa
5 events.

6 **A.** I had to -- I had to use whatever data I had and in some --
7 in one year -- I think you're picking one year as an anomaly in
8 which we have a few data points, but that's the only data that I
9 had on that year.

10 **Q.** I can actually go to --

11 THE COURT: So, excuse me, Mr. Isaacson.

12 Again, so, I'm clear about sort of the revenue
13 weighting, what exactly went into it besides the event -- or the
14 average revenue per event? Were there other factors or that was
15 the only factor that went into it --

16 THE WITNESS: That's the only --

17 THE COURT: -- for the ranked market? So what -- what
18 did -- what was the way that you sort of weighted these
19 particular fighters?

20 THE WITNESS: Right. So, first, let's think about
21 unweighted and then we'll go to apply the weight. So in the
22 numerator we're going to take the Zuffa pool of fighters that
23 are -- if we're doing the foreclosure share, that are subjected
24 to these contracts that we think contain three potentially
25 exclusionary terms, and the denominator is everybody in the

2:15-cv-01045-RFB-PAL

1 market. And now the question is, how do we come up with a
2 weight for the numerator, the Zuffa pool --

3 THE COURT: Right.

4 THE WITNESS: -- and we're going to hit that with
5 Zuffa's average revenue per event. And in the denominator --
6 Zuffa shows up again in the denominator, and that's going to be
7 hit with Zuffa's average revenue per event that year. And every
8 other promoter is going to be hit with their average revenue per
9 event. And, so --

10 THE COURT: So that was the only thing -- that was the
11 only -- the average revenue for event was the only factor as
12 relates to weighting?

13 THE WITNESS: Correct. For the revenue weighting,
14 Your Honor, for the revenue weighting. We used the revenues of
15 the associated promoter to come up with the weights, correct.

16 THE COURT: Okay. Okay. And ...

17 MR. ISAACSON: And I'm not going to take your time
18 further with this, Your Honor. I've illustrated the point. We
19 do not think this is an anomaly. I could go through it year by
20 year, but I don't -- I think I'll be taxing the patience of the
21 Court if I do that.

22 THE COURT: No. I mean, look, you can point that out,
23 but it may also be helpful to point out why that would matter.
24 It may conversely only support the idea that, in fact, these
25 other promoters weren't really making any money at all at these

2:15-cv-01045-RFB-PAL

1 events. And, so, that would reinforce the idea that, in fact,
2 their control by Zuffa as it relates to the ability to generate
3 revenue for these events was a factor. And, so, I would want
4 you, Mr. Isaacson, at some point to circle back to explain to me
5 why that would matter because part of the argument could be,
6 well, that's exactly what's partly the issue -- I imagine that's
7 what they're going to argue, is that you then are weighting a
8 fighter who could only amass maybe \$2,000 at a gate versus one
9 who could amass 1.6 million. And that's a bit of what their
10 argument is, at least as I understand it regarding why the
11 weights matter.

12 MR. ISAACSON: And that's not what's happening, we can
13 show you, because there's very large money non-Zuffa events
14 which are being excluded.

15 THE COURT: So you're saying that there are events that
16 are from 2012 where there's large money there --

17 MR. ISAACSON: Right.

18 THE COURT: -- that aren't included in the database?

19 MR. ISAACSON: For example, in 2014, there's a \$10
20 million event that's excluded when only small events are used
21 because of if it doesn't -- you can see that there's \$10 million
22 earlier, but if it doesn't add up into that last column, it's
23 not there. It's how they're choosing the data.

24 THE WITNESS: Your Honor, may I -- may I respond to
25 that?

2:15-cv-01045-RFB-PAL

1 THE COURT: So -- so -- hold on just a second.

2 So is your argument, Mr. Isaacson, that there were
3 choices made about which events were included in revenue
4 weighting that are missing that affected the revenue weighting?

5 MR. ISAACSON: Right. Yes, and -- or --

6 THE COURT: So then -- so why don't you just ask him
7 about that.

8 MR. ISAACSON: I think I have --

9 THE COURT: No. No.

10 MR. ISAACSON: -- and he's -- he's said --

11 THE COURT: No, you -- actually, you haven't actually
12 asked --

13 MR. ISAACSON: He said it was an anomaly.

14 THE COURT: No. No. No. No. So, if -- if -- I want
15 you to be able to -- you to ask -- if -- and if you have
16 specific examples, again, Mr. Isaacson, it helps me --

17 MR. ISAACSON: Sure.

18 THE COURT: -- because I have to ultimately decide
19 whether or not the model is sufficient. If you're saying that,
20 in fact, they're missing significant inputs as to his own sort
21 of rank weighting, that's something that you should point out.
22 That's the purpose of this particular proceeding. So, let's go
23 to whatever, if you have 10 million or other million-dollar
24 weights that you think should have been included, let's talk
25 about those.

2:15-cv-01045-RFB-PAL

1 BY MR. ISAACSON:

2 Q. All right. So, in 2014, which would be page 9 of this
3 document, there's Bellator 120 and Bellator 131, which is about
4 three-quarters of the way down. The -- and the Bellator 120 has
5 Pay-Per-View revenue of \$4.5 million, but no total revenue on
6 it. No gate revenue.

7 THE COURT: I'm sorry, where do you see that?

8 MR. ISAACSON: So that's Bellator 120.

9 THE COURT: Oh, on the revenue on the far right. Okay.

10 BY MR. ISAACSON:

11 Q. And 131 has a weight of 407,000 -- has a total revenue of
12 407,259. All right. And I said 10 million, I should have said
13 10 times. The event with 10 times as much revenue, of 4.5
14 million, is excluded from your revenue weighting and you used
15 the 407,259 item.

16 A. Which -- which revenue do you think that I'm excluding? I'm
17 sorry, I didn't follow that.

18 Q. For 2014 --

19 A. Yes.

20 Q. -- the only --

21 A. Can you tell me which number was excluded?

22 Q. Sure. The --

23 THE COURT: Look on the --

24 BY MR. ISAACSON:

25 Q. The numbers for Bellator 120.

2:15-cv-01045-RFB-PAL

1 **A.** Okay. Bellator 120.

2 **Q.** All right. The only --

3 THE COURT: The Pay-Per-View revenue, which looks like
4 it's \$4.5 million, and if you go to the final column, it says
5 total revenues. It doesn't look like -- it just is like a dash,
6 which I assume is no total revenue. I understand Mr. Isaacson's
7 question to be, why isn't that \$4.5 million included? Did you
8 just focus on the gate revenue and did that impact --

9 THE WITNESS: No, I did not. I used -- I used the
10 Pay-Per-View --

11 THE COURT: Okay. So -- hold on.

12 MR. ISAACSON: Let me just tell you, sir --

13 THE COURT: So -- wait. Wait. Wait. Wait. Please,
14 Mr. Isaacson.

15 So explain, Mr. -- Dr. Singer, what that dash means.
16 Was it or was it not included? Because it looks like, and I
17 assume this is what Mr. Isaacson's point is, that at least some
18 of the Pay-Per-View revenue is not being included in the revenue
19 weights.

20 MR. ISAACSON: No. It's something more than that.

21 THE COURT: Okay. Hold on. Hold on. Let him just
22 answer that question, please.

23 THE WITNESS: No. The Pay-Per-View revenue was
24 included.

25 MR. ISAACSON: Okay. The --

2:15-cv-01045-RFB-PAL

1 THE COURT: So -- so, hold on. Wait, please.

2 Why then does it not show that on that particular
3 chart?

4 THE WITNESS: He's printing something that purports to
5 be produced from backup, and I'm not -- I'm not certain that
6 this is what -- the way the code worked. The code would take
7 the Pay-Per-View revenue.

8 MR. ISAACSON: Right.

9 THE COURT: So you're saying that this chart is not an
10 accurate reflection of the fact --

11 THE WITNESS: It might --

12 THE COURT: -- that Pay-Per-View revenue was actually
13 included?

14 THE WITNESS: Correct. It might not. If you look at
15 my code, you'll see the Pay-Per-View revenue was included.

16 BY MR. ISAACSON:

17 Q. But your revenue weighting for 2014 was based solely on the
18 407,259 figure.

19 **A.** I'm not sure that's the case. I haven't heard this critique
20 until today. So, I'm not sure that that's the case. We -- the
21 code was written to grab all of the revenues. We didn't treat
22 certain promoters differently than Zuffa. Everyone was treated
23 symmetrically. And if I could just say one other thing.

24 THE COURT: Well, no, no, no. Trust me, you'll --
25 they're taking down, your attorneys, notes feverishly. I am

2:15-cv-01045-RFB-PAL

1 sure that on your rebuttal they'll be able to go through this.
2 And if, on the rebuttal, you want to be able to bring up this
3 information on the backup, that's fine, because this is -- and
4 this is important. This is, by the way, exactly, Mr. Isaacson,
5 what I do want you to do. Point those sorts of things out.
6 That does matter as it relates to the model. Those are
7 questions that need to be answered, and if the model doesn't
8 take that into consideration -- I'm not saying it does or
9 doesn't -- that's certainly something that I would want to have
10 clarified. So --

11 MR. ISAACSON: And certainly --

12 THE COURT: -- but there will be an opportunity,
13 Dr. Singer, to be able to respond.

14 But I do want you, Mr. Isaacson, to proceed with that
15 line of questioning.

16 BY MR. ISAACSON:

17 Q. Right. Certainly for your rebuttal you can check whether,
18 for your revenue weighting for 2014, what you used was the
19 407,259 figure for the non-Zuffa events. For your rebuttal you
20 can check that. Okay?

21 The -- and --

22 THE COURT: Are there any other figures, Mr. Isaacson,
23 that you think should be checked, or other information that
24 would suggest beyond this one year, that there was a revenue
25 weighting that you believe demonstrates that the weights were

2:15-cv-01045-RFB-PAL

1 not properly calculated based upon what they are meant to
2 capture?

3 MR. ISAACSON: My problem is that will eat up the rest
4 of my time, what they add -- what they --

5 THE COURT: No. No. No. Well, look, because here's
6 what I'm going to say, if it's not presented to me, I'm not
7 going to consider it, right? And, so, what I don't want to have
8 happen is you all then present this in briefing because that's
9 not going to work. So, if you have it and if that means we have
10 to take more time, we will take more time. But what I don't
11 want to do is then have additional information provided in
12 briefing that we then have to go back and have other hearings
13 on.

14 MR. ISAACSON: So, I did make the judgment that I was
15 going to show you a couple of examples of this and I had pages
16 and pages and pages of this that I -- that I decided not to use.
17 Now, I can share those pages with the other side before rebuttal
18 and give him the opportunity to address it, and we can talk --
19 take that topic up in rebuttal if that is what you want.

20 THE COURT: Okay. Has this been previously been raised
21 with the plaintiffs?

22 THE WITNESS: No.

23 THE COURT: Hold on -- hold on. You all, this is going
24 to take a long time if everyone keeps talking when I'm talking.
25 And my court reporter is going to have -- is going to stand up

2:15-cv-01045-RFB-PAL

1 and start getting really upset if that happens again. So I'm
2 going to caution all of you to please stop doing that, first,
3 for me, but also then for my court reporter.

4 So, if we need to take more time, we will take the
5 time. The purpose of this hearing is really to evaluate the
6 modelling. So, Mr. Isaacson, if you are going to want me to
7 consider it, then it has to be placed before me. What I will
8 not consider, since we're having an evidentiary hearing, are
9 things that are submitted in briefing that the witnesses, and
10 particularly the expert, whether it's Dr. Topel or Dr. Singer or
11 Mr. Silva or Dr. Zimbalist, any of them, if it hasn't been
12 presented. I'll give you an opportunity to be able to
13 potentially submit briefing or arguments, but what I will not
14 consider -- and I want to be perfectly clear -- is anything
15 about the modelling that you have not explicitly presented so
16 that the experts can comment on it at the hearing.

17 So if that means, Mr. Isaacson, you need additional
18 time or you want to do it, that's fine. Now, they can lodge an
19 objection as relates to them not having the opportunity to be
20 able to prepare and I will address that, but I don't want there
21 to be a situation where you point this one item out and then in
22 a brief, Mr. Isaacson, you come back and you say this happened
23 10 times, right? That, to me, wouldn't be appropriate.

24 MR. ISAACSON: Right.

25 THE COURT: And, so, if you need that time, we'll take

2:15-cv-01045-RFB-PAL

1 that time, but I don't want this to be there was one example at
2 the hearing and we found 10 others and we want you to consider
3 all of those. You know, this is -- so this is not a -- this is
4 not a time to in any way withhold the arguments or the briefing
5 at this point in time.

6 MR. ISAACSON: So, what this should be is a series of
7 undisputed facts as to each year which events were used in the
8 non-Zuffa -- for the non-Zuffa revenue weighting and which --
9 and which ones were not. And we can give that list to them and
10 check -- we can mutually check that it's accurate and put it in
11 the record.

12 THE COURT: Well, no, but then you need to ask --

13 MR. ISAACSON: And get -- before -- or do it --

14 THE COURT: Would that -- wait. Wait. Wait.

15 MR. ISAACSON: I'm sorry, before rebuttal.

16 THE COURT: Right. Right. Yeah. Certainly.

17 So if that's what's going to be the case, that's fine.
18 And then they'll have an opportunity and Dr. Singer will have an
19 opportunity to go back and do that. And if we have to use some
20 other time, we'll come back and do that. But that way, I can
21 evaluate it. But this is actually -- the purpose of the hearing
22 is specifically to address these types of issues as it relates
23 to modelling for the class.

24 Mr. Cramer.

25 MR. CRAMER: Your Honor, thank you.

2:15-cv-01045-RFB-PAL

1 We appreciate your comments about the purpose of the
2 hearing, and we agree. I guess what I would say is these
3 particular attacks about potential mistakes that we don't even
4 know are mistakes in the database have never been raised before.
5 They're not in Dr. Topel's report. They're not in Dr. Blair's
6 report. That they're not in Dr. Oyer's report. We're just
7 getting this now live at a hearing. And I appreciate we'll be
8 able to get an ability to respond, and we will respond.

9 THE COURT: Well, look, I will go back and look at
10 that. If it's not there previously in terms of this type of
11 question, then I'll consider whether or not it's appropriate to
12 be considered at the hearing. I don't think, for either side,
13 it's fair to raise arguments about modelling, given the number
14 of reports that these experts produced, to raise new arguments
15 that were not previously raised in depositions on rebuttal
16 reports.

17 Now, I don't know that that's the case or not,
18 Mr. Isaacson, but what I don't want to have happen is we go back
19 and forth with issues and then they're going to say, well, we
20 want more time to be able to respond, right, to the arguments
21 that are raised.

22 So --

23 MR. CRAMER: Your Honor, may I just make one other
24 point? I mean --

25 MR. ISAACSON: Can I --

2:15-cv-01045-RFB-PAL

1 MR. CRAMER: -- one of the reasons --

2 THE COURT: Hold on. Hold on a second, Mr. Isaacson.

3 Yes, Mr. Cramer.

4 MR. CRAMER: One of the reasons why it's important for
5 us to have had time to review Dr. Topel's work if he covered
6 this issue and respond to it is one of our answers likely will
7 be -- if there is a mistake, and I don't know that there's a
8 mistake -- that it makes no difference. If you run it with the
9 actual numbers, Bellator's revenues are so low it's not going to
10 make a difference. You're already into 2014.

11 So, we would have to be able to run the model, correct
12 a purported mistake, and show it makes no difference. And I
13 think Dr. Singer will probably say it would make no difference.
14 I think we'd find it would make no difference, but we can't do
15 that at a live hearing when we're hearing this particular
16 critique that wasn't in Dr. Topel's report for the first time.

17 MR. ISAACSON: So, this is -- the document that we've
18 been going over is Singer Deposition Exhibit 4. All right.
19 These questions --

20 THE COURT: Was this particular critique raised in any
21 briefing or report in this case before today, Mr. Isaacson?

22 MR. ISAACSON: I'd have to check whether it was in the
23 reports.

24 THE COURT: Because I will tell you if it wasn't, then
25 I am going to seriously consider not considering it because I

2:15-cv-01045-RFB-PAL

1 don't think it's fair because I don't want to have competing
2 subsequent regression analyses done by either expert. So, we
3 don't have to necessarily take up the time right now to do that.
4 What I will do, Mr. Isaacson, is I'll give you time because
5 you -- as with all of us, there are hundreds of documents in
6 this docket.

7 MR. ISAACSON: Right.

8 THE COURT: I don't want you on the spot to say one way
9 or another. I want you and your team to be able to look through
10 that. But I do want to be clear about the fact that I don't
11 think it would be appropriate or fair to lodge new critiques
12 against experts, either side, where the expert has not had an
13 opportunity to be able to respond, and as Mr. Cramer said, and
14 as you would probably say for Mr. -- or Dr. Topel, run
15 regressions because what does matter is whether or not this is
16 statistically significant. It may not actually matter, right?
17 I don't know whether or not it matters.

18 MR. ISAACSON: So --

19 THE COURT: It may not matter in terms of the coding
20 and how it works. Again, or it might have been controlled for.
21 I don't know. Dr. Singer, as he sits here, may not know and
22 that's why I don't think it's fair or appropriate to ask
23 questions like this about coding because of the thousands of
24 entries that would have been associated with this. That being
25 said, I'll let you point things out and then we can come back.

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: All right. And just to be clear, this
2 doesn't have to be relevant to the regressions. It goes to the
3 theoretical construct of the foreclosure share because,
4 remember, when we're looking -- and we had this discussion
5 before. What -- is their anticompetitive conduct driving
6 foreclosure share? Or is it other things, such as revenue
7 weighting?

8 And when you are -- when you are doing these things
9 based on having Zuffa revenues and non-Zuffa revenues, that
10 revenue weighting is driving a lot. If you are also depressing
11 the non-Zuffa revenues, that also goes to another reason why
12 you're not actually looking at anticompetitive conduct. You
13 don't have to read -- that has nothing to do with rerunning the
14 regression, all right.

15 THE COURT: Well, it is to a certain extent because if
16 the revenue weighting in the modelling doesn't have an impact --
17 I don't know whether or not it has an impact. That would --
18 that's an important aspect to the analysis. If, in the context
19 of the impact regression that Dr. Singer ran, this particular
20 entry has no statistical effect, then you pointing it out
21 doesn't actually tell me anything necessarily about the revenue
22 or foreclosure share. On the other hand, if, in fact, it does
23 impact the foreclosure share, then that's an issue.

24 We did see yesterday the chart that talked about the
25 unweighted foreclosure share and the fact that there is a

2:15-cv-01045-RFB-PAL

1 difference between that and the weighted foreclosure share,
2 which is I understand part of the reason why you're pointing out
3 the significance of the revenue weighting. I understand that.
4 But I do think that the plaintiffs should have an opportunity to
5 be able to respond to an attack on a fundamental aspect to the
6 model.

7 MR. ISAACSON: I'm not -- so, the rerunning the model
8 doesn't change the issue that I'm addressing because if
9 foreclosure share is not measuring anticompetitive impact, I
10 don't care if the results show an effect -- a relationship to
11 wage share. All right. In order for this regression to be
12 meaningful, both the foreclosure share has to be a meaningful
13 variable and the so-called wage share or fighter share has to be
14 a meaningful variable. Otherwise, we're just debating a
15 relationship that does not matter.

16 THE COURT: No, and I agree with you --

17 MR. ISAACSON: -- on an antitrust loss. And, so,
18 the -- the --

19 THE COURT: -- but in order for this to matter, it
20 actually has to impact the model.

21 MR. ISAACSON: No.

22 THE COURT: So there's no point --

23 MR. ISAACSON: I'm not being clear then. I'm not being
24 clear.

25 THE COURT: You're not because you are simply saying --

2:15-cv-01045-RFB-PAL

1 what I thought you were saying was the revenue weighting is
2 having a disproportionate effect on the appearance of the
3 control of Zuffa over the supply of fighters, that if you take
4 out the revenue weighting, that, in fact, what you see is not
5 the same level of control of -- or dominance in the market as it
6 relates to the number of fighters. That's what I thought you
7 were arguing.

8 MR. ISAACSON: What I'm saying -- what I'm saying is,
9 is that the entire concept of foreclosure share, if it's built
10 on revenue weighting, is not built on anticompetitive -- not
11 built on anticompetitive conduct. And when they show the chart
12 and say it's the acquisitions that drove up the foreclosure
13 share and instead -- it goes to that issue of, no, they are not
14 measuring anticompetitive conduct. If what's driving that is
15 revenue weighting, then we're -- then we're just debating about
16 whether the size of a company has an effect on wage share.

17 THE COURT: Right, but then the unweighted --

18 MR. ISAACSON: And if it does, it doesn't matter.

19 THE COURT: The unweighted foreclosure share, after
20 this period, also goes up, right? So, I appreciate what you're
21 saying, which is -- I go back to your earlier argument, which is
22 the foreclosure share is not actually capturing anticompetitive
23 conduct. What it's capturing is the increasing success of the
24 UFC and its -- and its dominance in the market. That it's not
25 necessarily about anticompetitive conduct, it's about

2:15-cv-01045-RFB-PAL

1 essentially a very successful business model that is
2 procompetitive, right?

3 MR. ISAACSON: Right.

4 THE COURT: So -- okay. I get -- that part I get, but,
5 again --

6 MR. ISAACSON: This goes to that issue.

7 THE COURT: -- when you're pointing these -- I'm sorry,
8 Mr. Isaacson, but when you're pointing these parts out, it is
9 helpful for you to be clear to me, Mr. Isaacson, if you're
10 saying, which is what I thought you were saying, is that even
11 the modelling, as it related to revenue weighting, itself, is
12 flawed because it's distorted because they're not capturing all
13 of the Pay-Per-View revenue, for example. That is a sort of an
14 internal inconsistency or flawed model argument that's separate
15 from, from my perspective, the argument that even if you -- even
16 if this was done perfectly, it doesn't capture anything other
17 than Zuffa or UFC's increasing success. Those are two separate
18 arguments.

19 So when you point this out to me, it's helpful for me
20 if you're saying the model's flawed because they're not even
21 being consistent about what revenue means and weighting and so
22 they're favoring or there's a bias as relates to Zuffa. That's
23 what I thought you were arguing.

24 In addition, you've already argued to me that idea that
25 the foreclosure sale its -- foreclosure share itself is a flawed

2:15-cv-01045-RFB-PAL

1 concept because it doesn't capture anticompetitive behavior. So
2 what I'm saying to you, Mr. Isaacson, is if you point out
3 something like this, you need to tell me which of those
4 arguments you're making because I thought you were making
5 actually the argument about the modelling and not the larger
6 argument about even if you were looking at foreclosure share,
7 however you measure it, all you're capturing is procompetitive
8 successful business practices.

9 MR. ISAACSON: I agree with you there are two
10 arguments, and that's what I was trying to express. And, so,
11 when we give you citations for what we've done before, we will
12 focus on there being two arguments and not just one.

13 THE COURT: Okay. And that's fine, but if you're
14 raising a model flaw argument, then that's an argument that
15 should have been raised previously because I do think,
16 Mr. Isaacson, what it invites is exactly what Mr. Cramer said,
17 which is we have to check the model, we have to run the model.

18 If, in saying it, you want to simply say, we don't
19 think this points out a problem with the model, we think that
20 the differences between the revenue points to an issue with
21 respect to procompetitive versus anticompetitive behavior,
22 that's fine. Then it doesn't matter whether or not the model
23 captures it. What matters really is to what extent it's
24 appropriate to use foreclosure share itself as an appropriate
25 measure of anticompetitive behavior, which is what I understand

2:15-cv-01045-RFB-PAL

1 your larger argument to be.

2 MR. ISAACSON: Yes.

3 THE COURT: So all I'm saying is that's helpful to me
4 if you make that distinction when you're doing the questioning
5 because, otherwise, I won't know what is the context in which I
6 understand the questioning.

7 So why don't you go proceed with that particular
8 guidance and we'll see -- I'll give you a little bit more time
9 and then we'll stop -- we'll switch over here in a little bit.

10 MR. ISAACSON: All right.

11 THE COURT: Actually, although we've been going -- why
12 don't we do this. How much more time do you have, Mr. Isaacson?

13 MR. ISAACSON: I have as much time as you're going to
14 give me.

15 THE COURT: That's a true lawyer's answer.

16 I'm going to give you about 15 more minutes. I will
17 let you, of course, when Mr. -- Dr. Singer comes back for
18 rebuttal, question him as well. And, again, if you're going to
19 have particular modelling arguments, now is really the time
20 because I won't consider them later if they have not been raised
21 in front of me now. So we'll take a five or 10-minute recess
22 and then we'll come back.

23 (Recess taken at 11:01 a.m.)

24 (Resumed at 11:14 a.m.)

25 THE COURT: Please be seated.

2:15-cv-01045-RFB-PAL

1 All right. So, Mr. Isaacson, one of the things I
2 wanted to mention to you is that if you think that there are
3 aspects of the model that don't capture anticompetitive conduct,
4 then you should ask Dr. Singer about those now rather than us
5 waiting later if they're model specific. If they're sort of
6 larger questions that don't have to do with Dr. Singer, you
7 don't need to ask them. But if you're going to take issues with
8 assumptions or aspects of the foreclosure share modelling, now
9 is the time to do that.

10 BY MR. ISAACSON:

11 Q. So, when you -- I was -- I've sort of laid the groundwork on
12 that when we detoured into the law and I stayed away from it.
13 But when you said that the foreclosure effect was a proper
14 variable that measured foreclosure, the two things that you've
15 pointed to are, one, your knowledge of the law and, two, the
16 duration of a fighter's career?

17 A. That's not what I pointed to.

18 Q. Okay.

19 A. That's not the totality of what I pointed to.

20 Q. Well, in your -- in your depositions, okay, when I
21 specifically asked -- and, so, I don't know if I want to go into
22 this, but the -- we've briefed this.

23 THE COURT: Well, but if you're going to -- if you're
24 going to --

25 MR. ISAACSON: We have briefed this with them. We've

2:15-cv-01045-RFB-PAL

1 put in the deposition excerpts.

2 THE COURT: Yes, but that -- so what I'm saying to you
3 is if you're going to say that you don't think the foreclosure
4 share captures anticompetitive conduct, then we want to be clear
5 about what Dr. Singer thinks that it captures in the context of
6 anticompetitive conduct or not. If you just want to clarify
7 what that is, that's fine, but what I don't want to have happen
8 is arguments about what it does and doesn't capture that relates
9 to the modelling that he could have answered before. If you're
10 just making essentially legal arguments, that's different,
11 Mr. Isaacson.

12 MR. ISAACSON: Yeah.

13 THE COURT: But there are some arguments that you've
14 made and will make that actually relate to things that
15 Dr. Singer has done that you should ask him about, but what I
16 don't want to have happen is, is have you go back and point out
17 portions of deposition testimony that may be slightly different
18 that could have been elaborated while we were at the hearing
19 today, again, as it relates to the modelling and what it
20 actually captures.

21 MR. ISAACSON: Right. I ... I don't think I need to
22 ask him more questions about what he would do to it that would
23 cause him to adjust his model. I think on direct he's explained
24 why he thinks foreclosure share is -- is appropriate. We have
25 replied, in both our papers and in our expert reports, as to why

2:15-cv-01045-RFB-PAL

1 that -- what he says does not measure anticompetitive effect and
2 the Court, I think, is going to be able to make a ruling on
3 that, and a lot of that --

4 THE COURT: No.

5 MR. ISAACSON: -- and a lot of that is law.

6 THE COURT: No. What I meant, though, was, for
7 example, you had a question -- or you had a line of questioning
8 that dealt with the revenue weighting.

9 MR. ISAACSON: Right.

10 THE COURT: And that was just even about even using
11 Dr. Singer's own assumptions, I understood part of the argument
12 to be if he used your assumptions. You're not actually
13 capturing as high a foreclosure share even with your own
14 definition than is the reality because you're using this
15 distorted measure. That's what I understood you to be asking.
16 And that's important because as you know at this point, even
17 though this is a rigorous analysis, this is not merits -- a
18 complete merits review at this point. It is based upon the case
19 law, from my reading, me making a determination about sort of
20 the fundamental adequacies or not of the modelling and the
21 assumptions.

22 I'm not choosing between which one is more persuasive
23 as it relates to Dr. Singer or Dr. Topel. I'm choosing whether
24 or not the model that's being proffered -- or deciding whether
25 or not the model that's being proffered by the plaintiffs can

2:15-cv-01045-RFB-PAL

1 satisfy the standard, particularly as it relates to sort of a
2 common injury that is a result of anticompetitive or antitrust
3 conduct. So, I just want to make sure that we're focussed on
4 that, and if you had questions like you did, that those are
5 questions that should be asked of Dr. Singer now.

6 MR. ISAACSON: I understand you, and I also understand
7 we'll be able to talk about the legal standard because I do
8 think the *Ellis* case expressly says persuasiveness is the
9 standard. But, I don't think that now is the time --

10 THE COURT: So let me be clear.

11 MR. ISAACSON: Now is not the time for this.

12 THE COURT: So let me -- the question isn't
13 persuasiveness about the two models. The question is
14 persuasiveness about the plaintiffs' models. In other words, I
15 don't think that -- and I just want to be clear -- that I have
16 to choose Dr. Singer's model over Dr. Topel's model. I have to
17 figure whether or not I'm persuaded or there's adequacy as
18 relates to Dr. Singer's -- or the plaintiffs' -- I should say
19 the plaintiffs' overall modelling.

20 So, that's what I meant by persuasive. Not -- it's not
21 a choice between the parties' modelling as to which one better
22 explains the information. I don't think that that's the center.
23 I don't think you're saying that, but I wanted just to give you
24 that so you could focus your questions so we don't spend a lot
25 of time focusing on how much better one model is than the other.

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: Dr. Singer's model needs to be
2 persuasive, but that needs to take into account the evidence
3 from Dr. Topel, which I --

4 THE COURT: Sure. Absolutely. Absolutely.

5 MR. ISAACSON: Okay.

6 BY MR. ISAACSON:

7 Q. In terms -- you've talked about all of the regressions that
8 have gone on. I just want to make sure I haven't missed
9 something. Now, in all of the regressions or econometrics that
10 you've done, have you done any regressions that show that the
11 contributions of fighter MRP and Zuffa are proportional to
12 revenue at an individual event?

13 A. I'm not sure I understand the question.

14 Q. Okay. So I'm talking about the contributions of the
15 fighter's MRP and Zuffa to revenue being proportional. Have you
16 done any econometrics or regressions that show they are
17 proportional in the contribution of revenues to an individual
18 event?

19 A. I don't think that's the -- I don't think that's related to
20 what I'm doing, and it's not the proportionality assumption that
21 I'm making that undergirds the model.

22 Q. Okay. Have you -- in all these regressions, have you --
23 that you've done, have you done a decomposition -- decomposed
24 the marginal revenue product contribution of the fighters and
25 Zuffa to revenue?

2:15-cv-01045-RFB-PAL

1 **A.** I think that my regression analysis is taking into
2 consideration the different contributions on the one hand from
3 fighters and on the other hand from Zuffa to event revenue. It,
4 of course, enters on the right-hand -- on the left-hand side of
5 my model.

6 **Q.** Okay. But have you done a decomposition of what that
7 contribution is between Zuffa and the fighters to -- of the
8 marginal revenue product of the fighters and Zuffa's
9 contribution?

10 **A.** I think that I -- there, I lean more heavily on that
11 academic article that we looked at that showed that the fighters
12 are the ones that are making the material contribution and much
13 more important than the name of the belt.

14 **Q.** Right. And that academic article is the ...

15 **A.** McGowan and Mann.

16 THE COURT: McGowan and Mahon.

17 BY MR. ISAACSON:

18 **Q.** McGowan and Mann, which is on ZCX 70 -- JCX, Joint Exhibit
19 72, and that article that's from the -- is that from a journal
20 you had heard of before? Before this case?

21 **A.** I believe so.

22 **Q.** Okay. The -- and that -- that was a study of Pay-Per-View
23 buy rates, right?

24 **A.** Yes, and Pay-Per-View being the most important contributor
25 to event revenue.

2:15-cv-01045-RFB-PAL

1 Q. Okay. It didn't analyze the determinants of
2 non-Pay-Per-View buy rates, right?

3 A. I don't think so.

4 Q. Okay. And you did not receive the data set that these
5 authors did to their study and try and replicate it; you also
6 didn't try to do your own study of this, right?

7 A. That's not true. I, in fact, did try to replicate their
8 study. I think I testified yesterday, and it's in my papers,
9 that I regressed event revenues on the rank of the highest
10 profiled fighter in the event. And I show that that was
11 statistically significant. Knowing the highest rank of the
12 highest ranked fighter in an event was statistically
13 significantly related to event revenues.

14 Q. So I --

15 A. My own original analysis confirming the results of the
16 study.

17 Q. Okay. You did not follow the methods. You did your own
18 independent thing; you didn't follow what they did?

19 A. I didn't need to replicate what they did because they've
20 already published that issue. I was interested in a related
21 topic and, so, I thought a different model was in order.

22 Q. All right. And the conclusion of that article was what's
23 most important was creating and promoting superstars, right?

24 A. That's not how I would put it, no. The conclusion of the
25 article was that the identity of the fighters was more important

2:15-cv-01045-RFB-PAL

1 in driving changes in Pay-Per-View revenues than were the
2 identity of the titles.

3 MR. ISAACSON: Can we just look at page 16, the
4 conclusion?

5 BY MR. ISAACSON:

6 Q. "In conclusion, the UFC should be most concerned with
7 creating and promoting superstars as they are the main causes of
8 high buy rates."

9 All right. Now, you have not done any study of
10 superstars, or tried to define superstars and then tried to do
11 an impact or damages analysis from that?

12 A. I have, in fact. If you recall, I included the rank of the
13 fighter at the time that they were profiled in the event and,
14 so, that's capturing, in part, the superstar aspect of a
15 fighter. If he or she is ranked 1, I think that would tell you
16 whether or not they were considered a superstar in the MMA
17 industry.

18 Q. All right.

19 THE COURT: And that would also be included in the
20 calculation of the common injury when you put it back into the
21 formula?

22 THE WITNESS: Of course.

23 BY MR. ISAACSON:

24 Q. Right. It's included, but not -- you never tried to isolate
25 it?

2:15-cv-01045-RFB-PAL

1 **A.** I think, Mr. Isaacson, if I understand where you're going,
2 is did I come up with a separate variable called superstar and
3 try to -- try to make my own subjective determination as to
4 whether I thought a fighter was a superstar or not. Dr. Topel
5 would have rightly jumped up and down and saying that's not
6 fair, he can't come up ex post with his own -- with his own
7 definition.

8 I -- my regression, in contrast, was built on objective
9 factors that came from industry standard databases: The Sure
10 Dog database, the FightMatrix database, the FightMetric
11 database. I don't want -- I don't want to come up with my own
12 subjective measure of a superstar because I know exactly, you
13 know, what that will lead to.

14 **Q.** All right. So before I run out of time, the -- you did two
15 regressions in your pay structure set of analysis. One was to
16 show that there was a pay structure and the other was to show
17 that there was a sharing, sort of broadly speaking?

18 **A.** In fact, I followed the two models that professor Leamer
19 used in *In Re: High Tech Employee Litigation -- Antitrust*
20 *Litigation* because I wanted to follow the pathway that at least
21 one court had recognized as establishing a pay structure.

22 **Q.** And both of those models that you did used the log of
23 compensation as the -- as the dependent variable?

24 **A.** Something cut out. Did you say "the log"?

25 **Q.** Yes.

2:15-cv-01045-RFB-PAL

1 **A.** I believe those models were done in logs. I think so.

2 Sitting here, I don't have a perfect recollection.

3 **Q.** Right. So both in high-tech workers, Dr. Leamer's models
4 used log of compensation.

5 THE COURT: Okay. Are you saying "log of
6 compensation"?

7 MR. ISAACSON: Of compensation. Yes. That's -- in
8 other words, actual compensation.

9 THE COURT: Okay.

10 BY MR. ISAACSON:

11 **Q.** Right. Did you --

12 **A.** To establish a pay structure, Dr. Leamer looked at different
13 metrics in which compensation was the dependent variable, and I
14 followed that path here.

15 **Q.** Right. So, when you did the impact regression, you used, as
16 you defined it, the fighter share, and when you did the pathway
17 blazed by Dr. Leamer, you used actual compensation?

18 **A.** In the -- yes, and the reason why I did this, and this is
19 critical, it's one of the first points I made in my direct
20 presentation yesterday, is that in the MMA industry, the fighter
21 is the product. And there is a long literature in sports
22 economics recognizing that wage share is the way to analyze
23 changes in labor mobility on worker outcomes.

24 In contrast, if you're thinking about an Apple
25 programmer -- and I don't mean to demean the programmer in any

2:15-cv-01045-RFB-PAL

1 way. They're wonderfully talented. But they -- they could
2 never be said to be the product of themselves. In that
3 application, the iPhone is the product. And it would be very
4 unlikely that -- that -- that increases in revenue for Apple
5 would be reflective of the marginal revenue product of a
6 particular programmer, right. So it's a completely different
7 industry and it -- therefore, we're in a very unique space in
8 which the fighter is the product, right, and that calls for the
9 use of the wage share as opposed to the wage level.

10 Q. Right. And here, you're using the totality of the fighters
11 are the product, but you say in other industries, such as the
12 high-tech industry, the totality of the programmers are not?

13 A. What I'm saying is that I don't mean to diminish the role of
14 the -- of the programmers, but the programmers are not the
15 product, right. The iPhone is the product. And from a
16 modelling perspective, for example, you wouldn't run into the
17 endogeneity problem that Dr. Topel runs into here if you were --
18 if you were trying to predict compensation, say, in -- at among
19 Apple employees.

20 Q. And in MMA, it's the event that's the product, right?

21 A. No. I would say in MMA it's the fighters are the product.
22 It is the collection of fighters, and particularly the
23 headliners at the top of the card, is what puts butts in chairs
24 and what drives Pay-Per-View sales.

25 Q. All right. And when I buy a product that's the result of

2:15-cv-01045-RFB-PAL

1 the Apple programmers, I buy -- I pay money for an iPhone, and
2 when I buy a product that includes the fighters, I buy a ticket
3 to the event, right?

4 **A.** You are buying a ticket to the event, but in the Apple
5 application no one is buying a phone because of the identity of
6 a particular programmer. That's the difference.

7 **Q.** All right. That's an interesting -- interesting suggestion.

8 The -- speaking of the Apple analogy, you used this
9 before. You said revenue weighting is common. You cited the
10 merger guidelines. And you used the example of you wouldn't
11 just count the number of iPhones; you would weight them by
12 their -- by the revenue, by the price.

13 **A.** Yes.

14 **Q.** Now, for the fighters, the revenue weighting, okay, in
15 the -- in that market, the input market, you have weighted them
16 by the upstream revenue that's from the ticket purchaser, right?

17 **A.** For the revenue weighting cut, yes, I do weight by the
18 revenue general --

19 **Q.** And --

20 **A.** Can I finish the answer?

21 **Q.** Yeah. I didn't mean to interrupt you. I was just beginning
22 to apologize.

23 **A.** For the revenue weighted cut, I do weight the pool of
24 Zuffa's fighters by Zuffa's average revenues, and the reason why
25 I do that is I'm trying to capture value. And, here, we're

2:15-cv-01045-RFB-PAL

1 trying to get at what is the revenue-generating ability of a
2 certain pool of fighters. The most logical place to look is the
3 revenue that's associated with that pool of fighters.

4 THE COURT: With the pool and not with the particular
5 fighters is what you're saying?

6 THE WITNESS: Not with the particular fighters.

7 BY MR. ISAACSON:

8 Q. Right. And -- but you can't find weighting by the
9 downstream revenues as any -- that that's a proper method for
10 weighting for a monopsony anywhere in the merger guidelines?

11 A. The merger guidelines devote about three paragraphs to
12 monopsony, unfortunately. Most of it is written, Your Honor,
13 with respect to monopolization in the output market. So Section
14 12 does a very quick passthrough, how the concepts that would
15 be -- that are spelled out for -- for monopolization in the
16 output market would be applied to the input market. It goes
17 very, very quick.

18 And it should be as no surprise that they did not write
19 up a special case study of what to do when you're combining 650
20 fighters across multiple weight classes, recognizing that
21 different fighters have different value, how to apply the
22 weights. So, no, that is not in the merger guidelines.

23 Q. All right.

24 THE COURT: All right. Thank you, Mr. Isaacson. I
25 think your time is about up.

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: Okay.

2 THE COURT: Mr. Cramer, we are not going to do any
3 redirect. You'll have an opportunity on rebuttal to do that,
4 but I would like to move onto Dr. Topel's testimony. So, can we
5 do that, Mr. Isaacson?

6 MR. ISAACSON: I just need to move some stuff around
7 and then we can do that.

8 THE COURT: Oh, you can step down.

9 THE WITNESS: Thank you.

10 THE COURT: I'm sorry, Dr. Singer. You can step down.

11 THE WITNESS: Thank you.

12 (Witness excused.)

13 MR. DAVIS: Your Honor, may I just collect the
14 materials of Dr. Singer?

15 THE COURT: Sure.

16 COURTROOM ADMINISTRATOR: Sir, please stand and raise
17 your right hand.

18 ROBERT TOPEL, having duly been sworn, was examined and
19 testified as follows:

20 COURTROOM ADMINISTRATOR: Doctor, please state and
21 spell your name for the record.

22 THE WITNESS: Robert Topel, T-O-P-E-L.

23

24 DIRECT EXAMINATION OF ROBERT TOPEL, Ph.D.

25 BY MR. ISAACSON:

2:15-cv-01045-RFB-PAL

1 Q. All right. Dr. Topel, I just want to say something by way
2 of introduction. The -- you and I have not had a chance to talk
3 about the morning's events. As we go through topics, I may not
4 remember every time that Dr. Singer has said something this
5 morning that you feel you have something to respond to. As we
6 get these -- to these topics, if there's something you want to
7 say about that, please remind me, and the Court may want to do
8 that as well. But I won't pretend to be completely organized
9 about every -- translating everything that happened this morning
10 into this -- into our presentation. So I'm going to ask your
11 help with that.

12 **A.** I'm not completely organized either, so maybe we can add up
13 to a whole something.

14 Q. All right. So let's talk about fighter compensation share.
15 We got a slide presentation. And if we turn to slide 5, all
16 right, I would like you to begin by taking a perfectly
17 competitive market and explaining what happens. If Zuffa
18 improves its events, what happens?

19 **A.** If Zuffa -- first of all, let's think about what Zuffa's
20 producing. They're producing events. And the revenues for the
21 event are the revenues per event that are collected. So they're
22 like the price of output.

23 Q. I think you may need to get closer to the microphone,
24 wherever that is.

25 **A.** It sounds loud to me.

2:15-cv-01045-RFB-PAL

1 Q. It's soft back here.

2 A. Okay.

3 Q. It's important that the Court can hear you, but --

4 THE COURT: Oh, I can hear him. I can hear him.

5 MR. ISAACSON: Okay.

6 THE WITNESS: So the revenue event is like the price of
7 output. So if the market was perfectly competitive and Zuffa
8 just made their events more valuable than others, then what
9 Zuffa can charge per event rises relative to others.

10 Now, it's true, that raises the marginal revenue
11 product of labor. That's going to cause Zuffa to hire more
12 labor, but if it's in a perfectly competitive labor market, it
13 doesn't have to pay higher wages to acquire more fighters or
14 more workers, if you will. So wages wouldn't change, but wages
15 is a fraction of per event revenue. The price that's being
16 charged declines.

17 That's exactly what's at issue here. The wage of an
18 individual divided by the revenue per unit declines because of
19 this procompetitive conduct.

20 BY MR. ISAACSON

21 Q. All right. So --

22 THE COURT: If it's -- but if there's anticompetitive
23 conduct, couldn't you see the same thing?

24 THE WITNESS: Anticompetitive conduct can do the same
25 thing. So the issue becomes, is this evidence of

2:15-cv-01045-RFB-PAL

1 anticompetitive conduct because it can be generated by
2 procompetitive conduct, it can be generated by anticompetitive
3 conduct. It can be generated by other things.

4 THE COURT: Right.

5 THE WITNESS: So that if the price -- if other costs
6 rise, you have to raise price. Then W over P goes down. It has
7 nothing to do with price --

8 (Court reporter clarification.)

9 THE COURT: W over P would be?

10 THE WITNESS: The wage divided by the price of output,
11 or here, revenue. Wage is a fraction of revenue.

12 THE COURT: Right.

13 BY MR. ISAACSON:

14 Q. All right. And, so, if revenues go up and wages either stay
15 the same or rise proportionally less than the revenue, what
16 happens to the wage share in a competitive market?

17 **A.** Wage share goes down.

18 Q. Okay. And you just explained that -- so what's -- I think
19 you just said this, but explain, like, if you have a model
20 that's testing this, are you -- are you testing whether there's
21 competitive or anticompetitive conduct?

22 **A.** The pattern does not tell you whether it's the outcome of
23 procompetitive or anticompetitive conduct.

24 THE COURT: So what would tell you that?

25 THE WITNESS: If it was anticompetitive conduct and

2:15-cv-01045-RFB-PAL

1 there had been an increase in monopsony power, other things the
2 same, wages would go down. Okay. If it -- because an increase
3 in monopsony power, think about what happens in output --

4 THE COURT: So let me ask this question then. If, in
5 fact, there's not -- if they're not actually producing a better
6 product, but revenues are going up, could you not draw the
7 inference that, in fact, it's the monopsony power that's keeping
8 the wages down?

9 THE WITNESS: Well -- well, how do I know they're not
10 producing it? First --

11 THE COURT: But that's not the question I'm asking you.
12 The question I'm asking you --

13 THE WITNESS: Yes.

14 THE COURT: -- is, if they're, in fact, not producing a
15 better product, but revenue is going up and wages
16 proportionately are not rising with that revenue, would that be
17 evidence of monopsony power?

18 THE WITNESS: Only if you know that the reason that
19 revenues are going up was due to the exercise of monopsony
20 power.

21 THE COURT: Well -- well -- well -- so -- so that could
22 be evidence of that, but you'd still have to show -- what you're
23 saying is that even if they're not producing a better product
24 and even if the wages themselves are not going up proportional
25 with the increasing revenue, you're saying you would still need

2:15-cv-01045-RFB-PAL

1 to try to create some sort of causal link between the sort of
2 alleged suppression of the wages and the revenue. So, in other
3 words, it could be if there are other costs associated --

4 THE WITNESS: Could be other --

5 THE COURT: -- that are increasing over time or
6 something else?

7 THE WITNESS: Could be other costs, or to be honest
8 with you, it could be procompetitive conduct that --

9 THE COURT: Okay. Here's what I want to tell you.
10 Let's try not to use those terms. They have very specific
11 meaning in the context of the legal literature. So if you're
12 going to talk about procompetitive, it would be helpful for me
13 if you actually specify what that actually means. But for now,
14 we're dealing with this hypothetical.

15 THE WITNESS: All right. But I --

16 THE COURT: If they're not producing a better product
17 and revenues are going up and wages are not proportionally going
18 up, what would be another explanation for that beside the
19 exercise of monopsony power?

20 THE WITNESS: Well, the question becomes whether it's
21 the exercise of illegal monopsony power or --

22 THE COURT: No. No. Again, stay away --

23 THE WITNESS: I get it.

24 THE COURT: -- Dr. Topel, stay away from the -- stay
25 away from the legal part of it. I just want you --

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Sure.

2 THE COURT: -- as an economist or -- and as an
3 econometrician, what would be other potential explanations for
4 that besides an exercise of monopsony power, which is
5 essentially the ability to suppress the wages, what else might
6 explain, for example -- again, assuming that the product isn't
7 getting better, what else might explain wages not rising
8 proportionally with an increase in revenue?

9 THE WITNESS: An increase in margins on the output
10 side. Okay. Well, that will cause -- that will cause the
11 revenue per event to rise. Doesn't affect wages. Wages divided
12 by revenue per event goes down.

13 THE COURT: Okay. So, increased costs basically?

14 THE WITNESS: Well, anything that increases margins on
15 the output side. You -- you asked me about monopsony power, but
16 suppose they -- suppose on the output side they have some
17 increased market power, I don't want to call it monopoly power,
18 but they have some increased market power that leads to
19 differentiation of their product relative to others. Margins
20 rise. Then wage divided by price goes down. Doesn't -- it's
21 not indicative of monopsony power.

22 So a firm that had no market power in the input market
23 could still have this happen because it's -- of product
24 differentiation on the output side.

25 THE COURT: Okay. All right. Thank you.

2:15-cv-01045-RFB-PAL

1 BY MR. ISAACSON:

2 Q. All right. The -- you had a number of positions with
3 journals, screening articles. Maybe you can explain that in the
4 context of this answer. All right. But if you received an
5 article that said we're going to look at the relationship of
6 wage share to measure what -- to measure anticompetitive
7 versus -- versus effects that were not anticompetitive, what
8 would be your reaction?

9 **A.** Well, it's not evidence of exercise of monopsony power or
10 monopoly power. It can change for a number of reasons. So it's
11 not a good index of that -- of the existence of monopsony power
12 and -- going directly to your question.

13 THE COURT: Dr. Topel, what would be both direct and
14 indirect evidence of monopsony power? Let's start with direct
15 evidence.

16 THE WITNESS: Well, direct evidence -- well ... I
17 always get hung up on the terms "direct" and "indirect." So --

18 THE COURT: So inferential versus -- I mean, obviously,
19 direct would seem to be someone asking for or having evidence
20 that a particular group of let's say in this case fighters
21 asking for a particular wage, not being able to obtain that
22 wage, and indicating that they had no other options other than
23 the one purchaser of the services, right? That would be direct
24 evidence, right?

25 THE WITNESS: Okay. To an economist, direct evidence

2:15-cv-01045-RFB-PAL

1 is going to be something like we see changes in demand and we
2 see that we're moving out along a marginal factor kinds --
3 averages wages are rising in response to that for a specific --
4 specific employer.

5 THE COURT: Okay. I'm not sure I understood or heard
6 you clearly.

7 THE WITNESS: Okay. So monopsony power exists.
8 It's the symmetric side of -- from the product market where in
9 the product market firms with some degree of market power set
10 prices above marginal costs. Here, in the input market, when
11 they've got some monopsony power, wages are set below marginal
12 revenue product. Same thing. Okay.

13 So what you would observe is that changes in demand,
14 for example, would cause wages to -- to rise because that firm
15 itself is facing upward sloping supply.

16 THE COURT: No. No. Okay. But that wouldn't be
17 evidence of monopsony power, would it?

18 THE WITNESS: Sure.

19 THE COURT: But I thought evidence of monopsony power
20 would be if -- even if there's an increase in demand, the
21 ability -- in terms of demand for the fighter's services, the
22 ability to maintain or hold constant wages despite the increase
23 in demand, wouldn't that be evidence of monopsony power?

24 THE WITNESS: Well, the classic model of monopsony --

25 THE COURT: Okay. But let me ask you, would that be

2:15-cv-01045-RFB-PAL

1 evidence of monopsony power?

2 THE WITNESS: No.

3 THE COURT: So -- because I understood monopsony power,
4 and again, that's why I'm asking you, is to be the ability to be
5 able to control the -- in this context, the wage of the fighters
6 despite the potential increased demand in market. Is that
7 right?

8 THE WITNESS: They can control -- they have some
9 control over the wage that they pay.

10 THE COURT: Right.

11 THE WITNESS: That doesn't mean that they can hold the
12 wage constant or would hold the wage constant because the thing
13 that gives them monopsony power is that they face an upward
14 sloping supply curve of labor so that the more they want to
15 hire, the more they have to pay to get it. The definition of a
16 perfect competitive --

17 THE COURT: But why would they -- if there's an
18 increased demand, but you have an oversupply and the ability to
19 control that of the fighters, why would they have to pay more?

20 THE WITNESS: Because there -- because the definition
21 of monopsony power is a firm that faces upward sloping supply
22 for its product, upward sloping supply for its input in exactly
23 the symmetric way that a firm with market power on the output
24 side faces a downward sloping demand for its product. So, in
25 fact, a couple of my colleagues have been trying to identify

2:15-cv-01045-RFB-PAL

1 monopsony power in academic markets. And what's their evidence?
2 Their evidence is when there's a surge in demand to go to a
3 particular school, average wages of the faculty at that school
4 rise. And there -- in some cases they find that, oh, these
5 people are price takers because average wages don't rise,
6 they're flat. So, if wages don't rise, that's evidence that
7 they face a horizontal supply curve. They're a price taker in
8 the market. If wages rise, that indicates that they're facing
9 an upward sloping supply curve, and they have to have some
10 monopsony power.

11 So what does a firm with monopsony power do? It
12 restricts the amount it hires so it can move back down the labor
13 supply curve, hire less, but benefit from paying a lower wage.
14 That's the definition. That is monopsony power -- the exercise
15 of monopsony power.

16 THE COURT: So in this context, you're saying the
17 exercise -- if there was an exercise in monopsony power, it
18 would mean that Zuffa had the ability to hire or put these
19 fighters under contract, but keep the wage less than the
20 proportional rise of the revenue -- or the marginal increase in
21 product that they're generating?

22 THE WITNESS: It's actually not even that, Your Honor.
23 If the -- remember what I said. The exercise of monopsony power
24 for -- take -- come back to my example. Zuffa does something
25 specific that raises revenue per event. And if it has no

2:15-cv-01045-RFB-PAL

1 monopsony power whatsoever, wages won't rise, revenue for a --
2 revenue per event went up. Now, if they had some monopsony
3 power, it would have to pay more to get fighters.

4 THE COURT: So -- so I'm confused. A lot of the
5 literature that I read that's attached here talks about
6 monopsony power being the ability to suppress or maintain wages.
7 I don't understand you saying that monopsony power's always
8 associated with increased wages because that's not what I've
9 read from what's been --

10 THE WITNESS: You're misunderstanding what I'm saying.

11 THE COURT: Okay. So tell me about what monopsony
12 power looks like if the wage is not increasing. What are the
13 circumstances in that circumstance -- because that's what's
14 alleged here, essentially, is -- the argument is about not a
15 proportional increase in wages, so --

16 THE WITNESS: It's key that we understand this. And
17 I'm going to make the analogy to the output side of the market.

18 THE COURT: No. No. Please don't do that. That's
19 actually not helping me.

20 THE WITNESS: Okay. Then let's do it --

21 THE COURT: Let's focus on this particular case because
22 what you're saying is slightly different than what I -- what I
23 understand and I understand what the literature to be saying
24 legally as to what monopsony power is. And I want to make sure
25 I'm understanding what it is that you're arguing.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Okay.

2 THE COURT: Because you seem to be saying that in a
3 monopsonistic situation, the wages would still go up
4 proportionally. And I don't understand how that is the case if
5 you're able to exercise the monopsony power. The very existence
6 of the power allows you to specifically suppress the wage. So
7 I'm not understanding what you're saying as relates to the wage
8 relationship.

9 THE WITNESS: There's two things. Maybe I'll do it
10 with a numerical example in a minute. Suppressing the wage
11 means the wage level is below the competitive level of wages.

12 THE COURT: Right.

13 THE WITNESS: Okay? What we've been talking about is
14 how the firm responds or how wages respond to a change in the
15 demand for labor. Okay. A firm with monopsony power is
16 restricting the amount it hires in order to push the wage back
17 down the labor supply curve. So it's suppressing the wage below
18 the competitive level that would otherwise occur.

19 THE COURT: Right. Okay.

20 THE WITNESS: Then the question becomes, okay, suppose
21 there's an increase in demand for what the firm's producing, and
22 this firm has some monopsony power. Well, if that firm is going
23 to move out along the labor supply curve, that slopes up, so
24 wages are going to rise.

25 THE COURT: Well, why would it have to do that if it

2:15-cv-01045-RFB-PAL

1 controls the supply? If I'm the only purchaser -- let's say I'm
2 the only one -- I wouldn't have to pay anyone even if I'm --
3 have an increased demand, I wouldn't have to pay any high wages
4 because I'm essentially the only game in town. So why would I
5 have to pay, if there's increased demand, increased wages?

6 THE WITNESS: Well, the -- let's be clear. Are you
7 saying there's nobody else that could be hired?

8 THE COURT: No. What I'm saying is my understanding of
9 monopsony power, and that's why I'm trying to figure this out as
10 it relates wages, is the ability, despite increased demand for
11 my product -- let's say that I'm UFC -- despite the increased
12 demand and despite the fact that I'm able to generate higher
13 revenue, my ability to be able to say -- to pay the fighters
14 essentially are lower than competitive wage if I had other
15 competitors in the market who were selling this product where
16 there was demand and I had to fight with these other competitors
17 to pay for the services of these fighters, right. My
18 understanding is what happens in a monopsony is because there's
19 an absence of these competitors, to me, I can pay a wage that's
20 less than what they would normally be able to obtain if there
21 are competitors for the services.

22 THE WITNESS: You're saying -- but -- forgive me,
23 Your Honor, you're saying two different things. One you're
24 saying, which is correct, in the absence of competition, you'll
25 be able to pay a lower level of the wage.

2:15-cv-01045-RFB-PAL

1 THE COURT: Right.

2 THE WITNESS: Okay. But how the firm responds to a
3 change in demand is a different thing. A perfectly competitive
4 firm, a firm that has no market power, no monopsony power, when
5 the demand increases, it's going to hire more people and wages
6 don't change.

7 So, in fact, as I said a minute ago -- so my colleagues
8 are using this as a test of the existence of monopsony power --
9 when demand changes, do the firms in question have to move out
10 along the rising labor supply curve and pay more? They're still
11 paying less than the competitive level, but the change in the
12 wage is evidence of the existence of monopsony power.

13 THE COURT: Okay.

14 THE WITNESS: Okay? And that's a key distinction that
15 we have to keep in mind.

16 THE COURT: Okay. So, in this case, that's -- so the
17 key distinction would be that -- in the context here, that it
18 would be -- if there was monopsony power, and you're not saying
19 obviously that there is, but if there was, you would see a
20 potential increase in wages but an increase that's not
21 proportional or not, I should say, commensurate with what the
22 competitive wage would be. Is that right?

23 THE WITNESS: I think -- I think we'll come in a little
24 bit to a quote from Dr. Singer that says --

25 THE COURT: Well, I'm not worried about that. I'm just

2:15-cv-01045-RFB-PAL

1 worried about your understanding.

2 THE WITNESS: And that's my -- not only my
3 understanding, this is established stuff in economics. And by
4 the way, the same pattern of rising wages for an industry, when
5 a demand for an industry goes up, that's an increase in -- a
6 level increase in demand is going to raise wages -- a level
7 increase in the willingness to pay for a product is going to
8 raise here the wage by less than -- less than the increase in
9 the demand for labor.

10 THE COURT: So that would mean that if there -- so
11 you're -- what you're saying is that the wages would still
12 increase even in the monopsonistic situation, but they wouldn't
13 increase to a competitive level. Is that what you're saying?

14 THE WITNESS: It would not increase to a competitive
15 level --

16 THE COURT: Okay.

17 THE WITNESS: -- and they would have started from below
18 the competitive level.

19 THE COURT: Okay. All right. So, now --

20 THE WITNESS: And that's the point.

21 THE COURT: Okay. Now I understand your point.

22 THE WITNESS: Okay. So -- so the -- just evidence that
23 wage is divided by revenues fell doesn't tell you anything about
24 the existence of monopsony power.

25 THE COURT: Right. What you're saying, it potentially

2:15-cv-01045-RFB-PAL

1 is a prerequisite, but it doesn't necessarily establish that, in
2 fact, monopsony power is being actually exercised.

3 THE WITNESS: It's -- if it's a -- both a -- it would
4 happen under competition and it would happen under monopsony, so
5 it doesn't tell you which one it is.

6 THE COURT: Right. It's not distinguishing in and of
7 itself?

8 THE WITNESS: That's right.

9 THE COURT: Okay. All right. Now I get it. I
10 understand it now.

11 Okay. Go ahead, Mr. Isaacson.

12 BY MR. ISAACSON:

13 Q. All right. On the same topic, slide 8, you've charted this
14 out. And, also -- and there's a statement of Dr. Singer from
15 his second report, paragraph 74. And there's a part of this
16 that you agree with and part of it that you don't agree with
17 based on this topic you've been discussing. Maybe you can
18 explain this and then ...

19 A. Sure. I mean, this is a -- this is -- this leads up to a
20 picture of what I just talked about.

21 Q. And it's on the screen, too.

22 A. Okay. Well --

23 Q. You've got a screen there.

24 THE COURT: To your right.

25 THE WITNESS: Yeah. The previous slide showed -- no.

2:15-cv-01045-RFB-PAL

1 That one -- a definition that was used by plaintiffs of the
2 marginal revenue product. And marginal revenue product is a
3 star increases attendance by 20,000. That's the addition to
4 output. And then you have to say, what's that output worth.
5 And if \$25 is -- is what we can collect from each fan, the
6 marginal income produced by this star is this number, \$500,000.
7 And if willingness to pay went up from \$20 to \$50 per fan,
8 that's an increase in the demand, per marginal revenue product
9 goes up to \$1 million. That's simply what it says.

10 BY MR. ISAACSON:

11 Q. All right. Now, before you go to the chart, since you --
12 we -- before we leave this quote, now, this hypothetical about a
13 tennis star, is marginal revenue product something you can
14 measure?

15 A. Well, not exactly because ...

16 Q. Now, you've told me that there is a joke amongst labor
17 economists about marginal revenue product.

18 THE COURT: Okay. Let's not go into there.

19 MR. ISAACSON: But it illustrates the point.

20 THE COURT: Okay.

21 BY MR. ISAACSON:

22 Q. Okay. It's --

23 A. You want me to do it or not?

24 Q. And it's not that funny, so ...

25 A. It's only funny to labor economists.

2:15-cv-01045-RFB-PAL

1 Q. Right. Right.

2 **A.** So, a naive econometrician, but famous econometrician named
3 Takeshi Amemiya came to my friend who's a very famous labor
4 economist, John Pencavel, and said, "John, you know this theory
5 that you guys have that marginal revenue product is equal to the
6 wage, I think we can test that." And John got really excited
7 because nothing like this had ever happened. And he said,
8 "Really, Takeshi, how?" He says, "Well, first, where do we get
9 data on marginal revenue product?"

10 Now, you guys are sitting there going, so. In a room
11 full of economists, this brings down the house because you
12 can't -- there's no reliable data on marginal revenue product.
13 People have tried to go and estimate things. It's a really
14 complicated process. So, it's not as if we can just go out and
15 collect data on marginal revenue product.

16 In this case, under certain circumstances, we see
17 events that if we interpret them as being caused by something,
18 you might see changes in marginal revenue product. And that's
19 the point we're going to get to now.

20 Q. All right. Let's advance -- go back to the other -- the
21 other slide.

22 **A.** Okay. Do you want to ask me a question or do you want me to
23 just --

24 Q. Sure. Explain -- well, why don't you explain the chart
25 first.

2:15-cv-01045-RFB-PAL

1 **A.** Well, the chart just shows what I was just talking about.
2 So if we look here at the marginal revenue product of labor here
3 on the horizontal axis. So, the horizontal axis measures labor
4 per unit of time, employees that we've got per unit of time for
5 this firm. And the vertical axis measures -- measures dollars
6 per unit of labor. Now, dollars per unit of labor is the unit
7 in which the wages is measured and it's also the unit -- in
8 which you'll notice from the previous slide, the unit in which
9 marginal revenue product is measured.

10 So what is marginal revenue product? It's how much the
11 upper-bound on what the firm would be willing to pay -- and
12 that's the operative word "willing" to pay -- to get another
13 unit of labor. The wage from the market is what the firm has to
14 pay to get another unit of labor. If the amount the firm's
15 willing to pay to get one more unit, in addition to its revenue
16 from hiring another worker, is bigger than what the firm has to
17 pay, hire the worker.

18 And so we start over here at 0. And if willingness to
19 pay is bigger than what you have to pay, the height of the red
20 line is bigger than the height of the green line, hire him,
21 hire, hire, hire. You get to L_1 along there. That's how many
22 units of labor you hire. This is the most basic thing about the
23 theory of the firm and the demand for labor.

24 All right. Now something -- the exogenous thing due to
25 the actions of the firm that makes this product more valuable

2:15-cv-01045-RFB-PAL

1 relative to others in the eyes of consumers.

2 Q. And let me interrupt. Can you explain why the green line
3 wages is flat?

4 A. Because I can hire as much or as little labor as I want
5 without affecting the price I have to pay -- the wage I have to
6 pay. So come back to what I said a few minutes ago. If the
7 firm can hire as much as it wants, when it hires more, it
8 doesn't have to pay more per worker to get them. That's a firm
9 without any monopsony power. That's a perfectly elastic supply
10 curve --

11 Q. Okay. And this is --

12 A. -- in the language of economists.

13 Q. This is a perfectly competitive market?

14 A. This is a perfectly competitive market on the input side.
15 This firm is a price taker. It can't affect the wage rate that
16 it has to pay to get people to work there.

17 Q. All right. So please continue and explain what happens when
18 the marginal revenue product changes.

19 A. Okay. So notice, the first thing, that the wage is equal to
20 the marginal revenue product at the amount L_1 -- L_0 , L_1 that we're
21 hiring. Then something happens. They come up with a better
22 product. People are willing to pay more. And that's the change
23 in the revenue -- here, it's change in revenue per unit it
24 should be. Change in revenue per event if you were thinking of
25 Zuffa. Raises the demand. And it -- and then -- now, at the

2:15-cv-01045-RFB-PAL

1 old quantity, willingness to pay is bigger than what you have to
2 pay. So you hire even more. And you get to L_2 .

3 So what happened? Wages divided by revenue per unit
4 went down. The quantity of labor went up. So, that's kind of
5 the pattern we're looking at in this case. Wages divided by
6 revenue, according to the plaintiffs, have been going down while
7 at the same time Zuffa's been hiring more labor.

8 THE COURT: Yes, but, I'm sorry. But isn't the --
9 maybe I'm misunderstanding. MRP_2 , isn't the revenue going down,
10 too, on this model?

11 THE WITNESS: No. Total revenue --

12 THE COURT: What's the -- look at the -- if you could
13 look at the model, what's that red line, that sort of negative
14 slope, is that revenue going down? Maybe I'm misunderstanding
15 because --

16 THE WITNESS: No.

17 THE COURT: -- because in L_1 you said there was a --
18 suddenly there was a change or a difference in the revenue. Are
19 you still at MRP_2 or --

20 THE WITNESS: Well, let's start again with MRP_1 .

21 THE COURT: No. No. No. Well, here's what I want to
22 ask you. You're pointing at L_2 , which is MRP_2 , right, where it
23 intersects with wages, right? That's what you wanted me to see?

24 THE WITNESS: What I want you to see is that there was
25 a change that occurred, and the change was an increase in the

2:15-cv-01045-RFB-PAL

1 amount we can collect per event, the change in revenue per event
2 of that height right there.

3 THE COURT: Right.

4 THE WITNESS: So -- so that happened. You previously
5 were hiring L_1 . That goes up. How do you respond as a firm?
6 You hire more, but the wage didn't change because you could hire
7 as much as you want without affecting the wage. So wages
8 divided by revenue per event went down, even though there's a
9 perfectly competitive firm.

10 And total labor employed went up.

11 THE COURT: So -- and, so, in this case, in MRP_2 , what
12 you're saying is, is you've hired more people, so you have more
13 workers, but the wages haven't increased?

14 THE WITNESS: Right, but wages as a fraction of revenue
15 per unit have declined.

16 THE COURT: Have declined. Because you have more
17 workers?

18 THE WITNESS: Because you didn't have to -- you didn't
19 have to --

20 THE COURT: Have to pay more?

21 THE WITNESS: You didn't have to pay more per worker --

22 THE COURT: For the same worker.

23 THE WITNESS: -- for the same workers. Got more
24 workers, so the firm's bigger.

25 THE COURT: Okay. All right.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Okay?

2 THE COURT: Uh-huh. Go ahead, Mr. Isaacson.

3 THE WITNESS: So that was a firm that's perfectly
4 competitive. And I'm just demonstrating the point that I had
5 said a few slides earlier where we had this discussion.

6 THE COURT: Right. Where you're saying that in a
7 perfectly competitive market -- well, because the wages are the
8 same. Now, if there was increased demand for the -- for the
9 labor, then why would wages be the same?

10 THE WITNESS: Because I can hire -- it's -- it's
11 increased demand for labor by me --

12 THE COURT: Based upon the supply.

13 THE WITNESS: -- in the firm. And what -- the
14 assumption about supply here is I can hire as many or as few for
15 the same wage. All right. Now --

16 THE COURT: What if -- what if there are fewer numbers?
17 So let's say, for example, in this case, the plaintiffs -- part
18 of their argument is based upon headliners and there being a
19 submarket where there are fewer numbers of a particular supply.
20 Would you -- would -- how would that impact this? Because it
21 seems to me in that case you can't hire whomever you want; you
22 only have a certain number of people you can hire. Why would
23 wages stay the same in that context?

24 THE WITNESS: You know, well, be careful, I didn't say
25 they would stay the same. I said this is an outcome if the firm

2:15-cv-01045-RFB-PAL

1 is perfectly competitive in the labor market.

2 THE COURT: Okay.

3 THE WITNESS: All right? Now, look over here to the
4 left to Dr. Singer's quote, and the part I agree with using --
5 is in yellow. "An increase in fighter marginal revenue product
6 will cause both fighter compensation and event revenue to
7 increase. However, fighter compensation will increase by less
8 than event revenue." Okay? So, in other words, the wage -- the
9 wage goes up, but wage divided by revenue goes down.

10 Now, that outcome in yellow would happen in a -- in a
11 competitive market where all the firms are acting competitively
12 because the increase in the demand for now fighters -- for MMA,
13 say, increases the demand for fighters, but with upward sloping
14 supply to the market, wages rise; but they rise by less than the
15 increase in demand, the shift up in demand. And that's a
16 technical thing in economics called the passthrough rate. How
17 much of the increase in value is reflected in an increase in
18 wages? Less than all of it.

19 THE COURT: Right.

20 THE WITNESS: Okay? So, again, competition and
21 monopsony produce the same outcome.

22 BY MR. ISAACSON:

23 Q. So --

24 THE WITNESS: In terms of looking at --

25 THE COURT: Well, they don't, obviously, or we wouldn't

2:15-cv-01045-RFB-PAL

1 be having this case. The issue is how do you measure the extent
2 to which the rise in wages is or isn't suppressed by, from a
3 competitive standpoint, monopsony power. That's what we're
4 looking at in this case.

5 THE WITNESS: Well, it's -- the rise in wages is --
6 it's not hard to have a totally plausible model where the
7 increase in wages in response to an increase in demand is of the
8 same proportion, whether it's competition or monopsony. What we
9 have to figure out is whether wages themselves are lower than
10 they would have been under competition. That's the key thing
11 about monopsony.

12 THE COURT: Right. And, so, what would indicate that?

13 THE WITNESS: Well, if you had a benchmark firm or a
14 benchmark market that was not affected by the challenged
15 conduct, then you could look at the level of wages there. This
16 is standard practice in monopoly models where you're looking at
17 prices --

18 THE COURT: So --

19 THE WITNESS: Here you're looking at the price of the
20 input.

21 THE COURT: So -- and then the question is, in this
22 case, you know, the plaintiffs look at other sports markets as
23 it relates to event revenue.

24 THE WITNESS: Yes.

25 THE COURT: And I'm looking at your report. You take

2:15-cv-01045-RFB-PAL

1 some issue with that. Why?

2 THE WITNESS: Well, all these --

3 THE COURT: I mean, what other model -- if you're
4 looking at a new market, what would be in this case the most
5 appropriate market to look at to be able to make the
6 approximation -- because I have to make it some way.

7 THE WITNESS: Yes.

8 THE COURT: What would be the appropriate market to
9 look at where there's no challenged conduct but perfect
10 competition, that includes a market where you have events and
11 events may be directly tied to an individual athlete or fighter?

12 MR. ISAACSON: At risk of interrupting, Your Honor --

13 THE COURT: Please -- please, Mr. Isaacson, just wait,
14 please. I would like an answer to the question.

15 THE WITNESS: So what could you do? There's either
16 looking at different markets, which is difficult in this case.

17 THE COURT: Right. But what market -- what market
18 would you say?

19 THE WITNESS: Well, let me finish. When I say it's
20 difficult, you might not have that kind of situation, but you
21 have -- you also have the existence of Zuffa prior to the -- the
22 increase in its alleged market power.

23 THE COURT: Right.

24 THE WITNESS: Okay. Were they upright -- operate like
25 then? Do other firms in the market, smaller firms with no

2:15-cv-01045-RFB-PAL

1 substantive market power, do they use the similar business
2 practices that we're observing here in part of the challenged
3 conduct? That's evidence that at least the challenged conduct
4 is used by competitive firms, or when Zuffa was much smaller,
5 that indicates that it had -- it doesn't have anticompetitive
6 impact necessarily, so it has some procompetitive reason for it.

7 And then the -- the -- another would be in the context
8 of what -- of what plaintiffs are alleging, that certain events
9 are alleged to have increased substantially Zuffa's market
10 power. The one that -- that you had heard Dr. Singer describe
11 as a momentous event was when Zuffa acquired Strikeforce. So
12 that would be an increase in Zuffa's monopsony power because of
13 that acquisition. What happened to the wages of the Strikeforce
14 people, not the wage -- not the ratio of wages to revenues, what
15 happened to the wages, the competition of the Strikeforce people
16 when they came over to Zuffa?

17 The increase in monopsony power says wages should have
18 been reduced below the competitive level because the -- whether
19 the market was fully competitive before the acquisition, it was
20 more competitive. And now it's less competitive. And you can
21 ask what happened to compensation. And the answer is, it didn't
22 go down; it went up.

23 THE COURT: By what measure?

24 THE WITNESS: By compensation.

25 THE COURT: But, no, I'm talking about absolute -- so,

2:15-cv-01045-RFB-PAL

1 in other words, even if the absolute compensation went up, we
2 had still talked about the possibility that that could still be
3 reflective of an monopsonistic power if it didn't go up in
4 proportion to what it could have gone up to in terms of the
5 competitive competition, correct?

6 THE WITNESS: Well, in -- if market conditions have not
7 changed -- I'm not saying that all wages would be -- in this
8 world would be at the competitive level --

9 THE COURT: Okay.

10 THE WITNESS: -- based on this evidence. I'm saying if
11 market conditions changed and this acquisition gave Zuffa more
12 monopsony power, then its power over wages is then increased.

13 THE COURT: Right.

14 THE WITNESS: Okay. That should reduce wages.

15 THE COURT: Well, but does it have to reduce it in an
16 absolute sense or does it -- can it reduce it proportionally
17 what the market would pay if it was competitive?

18 THE WITNESS: Well, if it -- if it reduces it
19 proportionally, it reduces it absolutely if market conditions
20 have not changed. Your market power went up. Now, you might be
21 positing a case where --

22 THE COURT: So maybe I'm not answering [sic] the
23 question clearly.

24 THE WITNESS: Okay.

25 THE COURT: Could there be a situation in which I

2:15-cv-01045-RFB-PAL

1 exercise monopsonistic power and I increase your wages, but I
2 still don't have to pay you what you might otherwise be able to
3 obtain in a competitive market?

4 THE WITNESS: Absolutely. That's what we've been
5 talking about up to now, and that has -- that's independent of
6 this example. Within the firm, if there are things in the
7 market that cause us -- cause demand to rise and we face an
8 upward sloping supply curve, so we have to pay more at the
9 margin to get workers when we hire more of them, then the
10 increase in demand is going to raise wages.

11 Those wages were set previously below the competitive
12 level, and after the increase, they're still below the
13 competitive level.

14 THE COURT: And, so, you're saying that's where you
15 see, if there's monopsonistic power, it's the fact they stay
16 below the competitive level, that's the evidence of the
17 monopsony.

18 THE WITNESS: So, that's -- that's the test. So, a
19 good test here is, well, what happened to the wages of those
20 Strikeforce people when they came over to Zuffa? And the answer
21 is they went up substantially, and we've got evidence on that in
22 my report.

23 THE COURT: But are they still below the competitive
24 level? Because that's what you're saying to me would be -- if
25 they started below the competitive level and they still go up,

2:15-cv-01045-RFB-PAL

1 how do we look at whether or not the increase is still below
2 what the competitive level would be and, thus, evidence
3 monopsony power?

4 THE WITNESS: Well, if they've got monopsony power,
5 they -- it is below the competitive level.

6 THE COURT: Right, but they -- they could still be
7 going up, but still be below the competitive level, correct?

8 THE WITNESS: Well, the only thing that changed
9 here was not --

10 THE COURT: Okay. But first, let me just can ask about
11 that from a statistical -- from an economics model standpoint
12 for monopsony power. The wages can go up, but if there's
13 monopsony power being exercised, they could still not rise to a
14 level that they would otherwise be competitively, and that would
15 be evidenced of monopsony power, right?

16 THE WITNESS: If I knew that they were still not up to
17 the competitive level --

18 THE COURT: Yes. Right.

19 THE WITNESS: -- but we've got to get our -- we're
20 doing an experiment here, and the experiment is -- the first
21 experiment we did was for a firm with monopsony power, what
22 happens if there's an increase in the demand for its product,
23 willingness to pay for its product. We went through that with
24 the firm for monopsony power. The revenues per unit will go up;
25 price will rise by less -- wages will rise proportionally less

2:15-cv-01045-RFB-PAL

1 than increase in revenue -- revenues per unit. So wages divided
2 by revenues will fall.

3 That's a different story. Now, we're saying, holding
4 demand constant, so there's no change in that, we've changed
5 market conditions on the supply side so that Zuffa has
6 purportedly more monopsony power than it had before. So its
7 control over wages has increased.

8 So, we would then not expect when people are coming
9 from this but-for firm, allegedly, or when this new firm is
10 being absorbed in, we wouldn't expect them to be getting
11 increases in pay. At best, we could expect them to be getting
12 constant pay; but, in fact, the wages actually went up.

13 THE COURT: Well, how would we know, based on this
14 model, what the actually true competitive wage would be? What
15 would be the measure of that? Even if the wage went up, it
16 still could be below the competitive level. In this
17 circumstance, how am I to look at the evidence to find out
18 whether or not, in fact, the wage went up to a level that's, in
19 fact, competitive, or whether or not the wage went up but it's
20 still below the competitive level? How would I --

21 THE WITNESS: That's --

22 THE COURT: -- make that determination?

23 THE WITNESS: That's the quandary, Your Honor, because
24 much like I said, what's the margin revenue product of labor,
25 what's the competitive wage, when you don't even know whether

2:15-cv-01045-RFB-PAL

1 it's below if competitive level. That's the quandary that you
2 face in deciding whether there is monopsony power.

3 THE COURT: So what would be evidence of it being below
4 the competitive level even if the absolute wage increased?

5 THE WITNESS: Well, there's some indirect evidence I'm
6 going to come back to, but it hasn't been produced in this case.

7 THE COURT: In this case, what would be indirect or
8 direct evidence that even if the wage -- the absolute wage
9 increased, there's still monopsony power such that it wasn't a
10 competitive wage? What would that look like? What would you
11 expect to see?

12 THE WITNESS: I would expect to see that -- forgive me
13 for putting it in technical terms -- that the elasticity of
14 supply of labor facing Zuffa would get smaller.

15 THE COURT: What does that mean?

16 THE WITNESS: It means that before they -- remember
17 what I said, if you're perfectly competitive, you can hire all
18 you want at a constant wage. If you got a little bit of
19 monopsony power, then as you hire more, you got to pay more.
20 Now, if you got even more monopsony power, the supply you face
21 is going up even more. So this -- I'm going to mix slope and
22 elasticity here, but if the slope of that supply curve -- if you
23 can figure out that the slope of that supply curve got steeper,
24 that in order to hire more, you got to pay more and more at the
25 margin, that would be an increase in monopsony power.

2:15-cv-01045-RFB-PAL

1 THE COURT: But, I mean, in this case, given this
2 particular market and the facts of what we're dealing with, what
3 would you expect to see that you don't see if there was an
4 increase in wages, absolute increase in wages, but still
5 monopsony power such that the increase in wages was not
6 consistent with a competitive wage?

7 THE WITNESS: I would not have expected to see that
8 when people moved over from Strikeforce they got material
9 increases in pay.

10 THE COURT: But I thought you said that you can have --
11 so, in other words, what you're saying is that you wouldn't
12 expect to see -- particularly as relates to the acquisition of
13 more fighters, you wouldn't expect to see them receive any type
14 of increase in pay at all?

15 THE WITNESS: Well, their contracts might call for some
16 bumps up in pay over duration because the way contracts in this
17 business work, or that for your first fight, you get something,
18 second fight, something, and so on. But we're seeing very
19 substantial increases in pay for these people when they went
20 across. If we had more market power and I just acquired all
21 their contracts and if this -- if the story is they got no place
22 to go, why do I pay them more?

23 THE COURT: Right. But if I paid them more, but could
24 pay them even more -- or would have to pay them even more
25 competitively, is there any other evidence that would show

2:15-cv-01045-RFB-PAL

1 that -- that they haven't presented? I mean, because part of
2 what the argument here is that there's an absence of evidence of
3 monopsony power. And what I'm trying to ask you, perhaps I'm
4 not doing it very elegantly, is what is it that you would see
5 after these acquisitions that tells -- that's not in the record
6 here that tells you, in fact, Zuffa was not exercising monopsony
7 power?

8 THE WITNESS: All I can tell you is there's no
9 substantive evidence of the exercise of monopsony power. Wages
10 were rising throughout the period.

11 THE COURT: But, Doctor, if the wages can still rise
12 under an exercise of monopsony power, that doesn't tell me that
13 there is or isn't monopsony power, which is part of your point.
14 Part of your point is you don't know.

15 THE WITNESS: Right.

16 THE COURT: But, to their point, it could also be that,
17 in fact, it is happening and they use this measure of event
18 revenue in conjunction with comparisons to other sports to say
19 this is what would happen in a competitive market. Why wouldn't
20 that be a way to demonstrate that, in fact, there was monopsony
21 power here?

22 THE WITNESS: Okay. There -- we'll come back to
23 something else I was going to say, but let's do the competitive
24 sports for now. The competitive sports that -- like the NBA.
25 I've done a little bit of work on the NBA. The NFL players, the

2:15-cv-01045-RFB-PAL

1 NFL, those are union contracts where there's a union. And
2 they've, in negotiations with the league, agreed on a division
3 of revenue. So that's not the kind of market situation we're
4 looking at here. That's a union that's being able to bargain
5 for a bigger share of the pie. So the last thing you would call
6 that is competitive because the union's got -- they say they
7 walk away, there's no players. And, so, that -- the
8 negotiations get ugly and they're negotiating over the size of
9 that -- the shares that they're going to have of the pie. So
10 that's not a benchmark in the sense of being a competitive
11 benchmark.

12 THE COURT: What would be -- again, I go back to this.
13 Give me a market that you think would be an appropriate market
14 as a benchmark similar to the MMA market that's at issue in this
15 case.

16 THE WITNESS: If we had an MMA -- MMA market in some
17 other place that was competitive --

18 THE COURT: No. One that -- no. One that exists now,
19 and whether or not -- you may not have identified one, which I
20 don't think you did necessarily in your report that I recall,
21 are there any that you can think of that would satisfy the
22 criteria that you've set forth?

23 THE WITNESS: If I had thought of a benchmark market
24 beyond the things I've said already, like who uses these
25 practices and so on or what happens when Strikeforce gets

2:15-cv-01045-RFB-PAL

1 acquired, I would have told you about it.

2 THE COURT: Right. Okay. I just wanted to make sure.

3 Thank you, Dr. Topel.

4 Mr. Isaacson.

5 BY MR. ISAACSON:

6 Q. Why don't we have you comment on another of plaintiffs'

7 slides. Move to the next slide.

8 This was shown by Dr. Singer, a quote from Rodney Fort.

9 "In a competitive talent market, we expect that players get paid
10 pretty close to their MRP."

11 Does this affect any of the opinions you've given? Can
12 you explain a reaction to this?

13 **A.** No. I agree with that statement. You can take the word
14 "players" out and say labor will get paid pretty close to its
15 marginal revenue product.

16 Q. All right. Have the regressions in this case shown that
17 fighters are getting less than their MRP?

18 **A.** No.

19 THE COURT: Why is that? Because, in part, you said
20 you can't measure the marginal revenue product, and that was
21 sort of the joke. So how is it that you then can say that
22 they're not getting it if part of the argument, which I
23 understood, was that you can't measure it?

24 THE WITNESS: Well, I want to be -- I listened
25 carefully to Mr. Isaacson's question.

2:15-cv-01045-RFB-PAL

1 THE COURT: Okay.

2 THE WITNESS: Which was, has the evidence that -- or
3 the regressions in this case demonstrated that workers are
4 getting paid less than their marginal revenue product. Answer:
5 No. Hasn't said they are getting paid their marginal revenue
6 product. Hasn't -- but there's no evidence there that they're
7 getting paid less than their marginal revenue product.

8 THE COURT: So, in other words, you're saying I don't
9 agree that their proffered marginal revenue product calculation
10 is accurate, in part, and that's part of the reason why I don't
11 think they're getting paid less than that, because they have
12 their own sort of asserted -- Dr. Singer does -- variable that
13 tries to capture that marginal revenue product, which you know.
14 And what I understand your answer to be, which is, first, I
15 don't think that's -- that's actually an accurate way to capture
16 marginal revenue product, which is a very complex concept. But,
17 second, to the extent that there's any evidence, that doesn't
18 establish that they're not getting paid the marginal revenue
19 product. Is that right?

20 THE WITNESS: That's correct.

21 THE COURT: Okay.

22 BY MR. ISAACSON:

23 Q. And turning to the next slide, this was a quote that
24 plaintiffs and Dr. Singer used from you that talked about the
25 situation of what if Zuffa does is makes its fighters more

2:15-cv-01045-RFB-PAL

1 effective revenue generators and that that would cause the
2 marginal revenue product of the fighters to increase. Is
3 this -- would you explain how this fits in with what you've been
4 saying?

5 **A.** Yeah, I think this was an exchange from my deposition about
6 a little model I put back to demonstrate the things that I
7 already had up here on previous slides with that graph. And,
8 so, he's saying if Zuffa makes its fighters more effective
9 revenue generators, in the model it was for Zuffa, when they
10 fight, is that fair? He's asking me is that -- I think -- I
11 think he's asking me is that an element of the model that you
12 were talking about, and I said yes.

13 **Q.** All right. And in that model, in this answer, you
14 were talking -- were you talking about Zuffa's contributions to
15 revenue or fighters' contribution to revenue?

16 **A.** I was talking about Zuffa's contributions that make the
17 marginal revenue product higher than it was before.

18 **Q.** All right. Let's turn to the next slide, slide 12.

19 Now, this was a deposition excerpt that was shown that
20 refers to the second-to-last sentence of paragraph 200 at page
21 88. And it says, "Lower revenues would likely lead to lower
22 athlete compensation?" And you say yes. And you explain
23 that's -- why, because the revenues are part of the willingness
24 to pay for an athlete. And if people didn't want to come to
25 fights, we wouldn't pay the fighters. That's pretty basic.

2:15-cv-01045-RFB-PAL

1 And now if we turn to the next slide, this is the full
2 context of paragraph 200.

3 **A.** Yes.

4 **Q.** So would you explain your answer and whether you think
5 there's any inconsistency with what you've been explaining to
6 the Court.

7 **A.** Of course.

8 The -- this was put up by plaintiffs as points on which
9 plaintiffs and defendant and Dr. Singer and Dr. Topel agree, or
10 something like that. And, so, if you look at the full context
11 back here, if we agree on this paragraph, then I think we can
12 all go home. Because what I'm talking about here is a situation
13 where we have these -- these contract restrictions in place in
14 order to retain people we've invested in and the incentive to
15 invest is that you get a return on your investment. And then if
16 the restrictions are removed and nobody has to fulfill the
17 duration of the contract, incentives to invest fall, interest in
18 events declines, lower revenues ensue, and in equilibrium you're
19 going to have lower wages overall.

20 So I'm talking about a world where if you really got
21 rid of all of these restrictions, the product becomes less
22 valuable and everybody gets hurt.

23 THE COURT: But how does that explain, for example,
24 other sports where you have free agency and you don't see lower
25 revenues and you don't see lower wages? Where you have, again,

2:15-cv-01045-RFB-PAL

1 lower restrictions after you look at people in a particular
2 initial probationary period, why then do you not see these lower
3 revenues and lower wages?

4 THE WITNESS: Well, I think you do see similar
5 contracts in other sports even with free agency. So I -- if I
6 were to sign with a team, I'd sign a contract that -- and
7 they'll have the right to sell my contract to some other team.

8 THE COURT: Right.

9 THE WITNESS: The question here is, is it enough
10 external market. Because the contracts are very similar.

11 THE COURT: No. I thought what you were saying, or
12 what was being said here, is that if you removed the
13 restrictions, you're going to have lower revenues. What I'm
14 saying is, if you look at other sports where they, in fact, have
15 fewer restrictions on athletes' abilities to move between teams,
16 why is it in these other markets you don't see necessarily lower
17 revenues and lower wages?

18 THE WITNESS: I'm not sure that we see in these other
19 places that we have fewer restrictions on moving. There might
20 be more places to move, but there's --

21 THE COURT: Well, you don't have free agency in UFC,
22 right?

23 THE WITNESS: Well --

24 THE COURT: There's only one purchaser of the
25 equipment. So, in other words, in the NBA, I'm a free agent. I

2:15-cv-01045-RFB-PAL

1 can choose teams and teams can make offers. There's nothing
2 like that in the UFC. And I thought what you were taking -- the
3 point you were making here is that even if we remove some of the
4 restrictions from the contracts that are alleged to be
5 exclusive, what you would actually see, even if there was
6 competition, is lower revenue and lower athlete compensation.

7 What I'm asking you is that in other sports,
8 professional sports, let's say for example the NBA, where you
9 have free agency and the ability to move between teams, why is
10 it you don't see lower revenue and lower wages?

11 THE WITNESS: Okay. Well, first, let me beg to differ
12 with the premise. And that is, the contracts at issue here are
13 alleged to have a duration of 30 months, which means that with a
14 constant flow of people going in one-thirtieth of the stock at
15 Zuffa are coming available --

16 THE COURT: Right. I'm not worried about the duration.
17 I'm worried about the ability to go to a different purchaser for
18 services. So free agency, in most sports, allows an athlete to
19 go to a potential other team to sell their services. In this
20 case, the argument at least, is if -- there was no other sort of
21 team to sell the fighter services; it was just UFC/Zuffa.

22 THE WITNESS: Well --

23 THE COURT: And I took from this paragraph you to be
24 saying that even if you removed restrictions in the contracts,
25 you wouldn't see an increase in revenue or wages. You would see

2:15-cv-01045-RFB-PAL

1 a decrease in revenue and a decrease in wages. And, so, what
2 I'm asking you is, how do you reconcile that statement with the
3 fact that in other sports, where there's greater movement
4 because you have multiple teams, and you're unrestricted to be
5 able to move, you don't see, as indicated in the record here, a
6 lower revenue or lower wages?

7 THE WITNESS: So, let me try again.

8 THE COURT: Okay.

9 THE WITNESS: Okay. That, you know, before free
10 agency, under the reserve clause in baseball -- we'll do
11 baseball. If I signed with the Dodgers, I'm with the Dodgers.
12 They own my contract.

13 THE COURT: Right.

14 THE WITNESS: Okay? They could sell my contract to
15 some other team, but there's no end of the contract -- of the --
16 there's no duration of the contract where I can call up the
17 Washington Nationals and say give me an offer --

18 THE COURT: Right.

19 THE WITNESS: -- right? So with free agency, we didn't
20 get rid of contracts. So everybody's not just working on a --
21 on a -- in a spot market on a daily basis, or a yearly basis.
22 They're signing contracts, some of them five years, seven years,
23 multiple years. And that contracts their services to a
24 particular employer for a period of time.

25 THE COURT: Right.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: And it's got all kinds of ancillary
2 rights, things in it, too. And, so, when those people are
3 coming off of contracts, they are free agents.

4 THE COURT: Right.

5 THE WITNESS: My understanding here is when people come
6 off of their contracts, with all of the details of those
7 contracts, they are free agents.

8 THE COURT: Okay. So --

9 THE WITNESS: Now, the difference --

10 THE COURT: So let me ask you a question. You're
11 assuming then that when they come off of their Zuffa/UFC
12 contracts, they're free agents and could sell their services to
13 other promoters. Is that right?

14 THE WITNESS: That -- the question becomes whether
15 other promoters are precluded from competing for their services.

16 THE COURT: Well, okay. So, first, there would have to
17 be other promoters --

18 THE WITNESS: Yes.

19 THE COURT: -- right? Then your argument is that in
20 this case, there's not really a difference because there's
21 contracts in all of these sports, and the free agency period
22 occurs at the end of the contract?

23 THE WITNESS: Yes.

24 THE COURT: And you have a similar circumstance here
25 where there are ends to the contracts and that allows for free

2:15-cv-01045-RFB-PAL

1 agency?

2 THE WITNESS: Yes.

3 THE COURT: So, if I were to accept the plaintiffs'
4 argument that they couldn't get out of the contract and that
5 they were contracts effectively in perpetuity, you might have a
6 different answer, right? You're not accepting that, but if I
7 were to find that.

8 THE WITNESS: If -- well, if you were to find that, I
9 would probably disagree with it, but if you were to find that,
10 then the finding would be that this is the reserve clause.
11 Okay. The pre-free agency reserve clause.

12 THE COURT: And then you wouldn't see the ability to
13 move freely; in other words, you would be essentially locked up?

14 THE WITNESS: You would not -- then you wouldn't see
15 the ability. You would be locked up and so on. I don't think
16 this -- the evidence supports that, but that would be --

17 THE COURT: No. But I'm saying --

18 THE WITNESS: I'm with you. We're together.

19 THE COURT: I'm just focussed on where the issue of
20 contention is --

21 THE WITNESS: Right.

22 THE COURT: -- so I can figure out where I have to
23 decide the issue.

24 THE WITNESS: Okay.

25 THE COURT: So, in other words, if I were to find that

2:15-cv-01045-RFB-PAL

1 that, in fact, was the effect of the contracts, would you agree
2 that, in fact, that would demonstrate at least indirect evidence
3 of monopsony -- one piece of monopsony power because the
4 athletes would not be able to get out of the contract, if I were
5 to make that finding?

6 THE WITNESS: If you were to make that finding and I
7 thought the evidence was compelling and I agree that this is
8 like the reserve -- the reserve clause --

9 THE COURT: Right.

10 THE WITNESS: -- I don't think the evidence supports
11 that, but we don't need to debate that.

12 THE COURT: Well, part of it, again, is I have to make
13 findings that may impact this and I want to understand what
14 you're modelling and what your principles are. And, so, you're
15 starting with the premise that you don't agree with the fact
16 that these clauses actually lock these athletes up in terms of
17 their ability to negotiate with Zuffa or with other promoters,
18 but if you did make that finding that they did, you would think
19 that would be evidence of monopsony power, right?

20 THE WITNESS: If there's something that kept all of
21 these other people from -- you know, both existing and potential
22 competitors from making offers at the end of contracts, then,
23 you know, they'd be the only game in town.

24 THE COURT: And that would be monopsony power?

25 THE WITNESS: That would be monopsony power. And we

2:15-cv-01045-RFB-PAL

1 have to be careful. I'm not -- I want to be careful about this
2 term "monopsony power." Lots and lots of firms have monopsony
3 power. And the question, where -- true economists, is where did
4 it come from.

5 THE COURT: Okay. And if it's exercised in a way that
6 suppresses wages below a competitive level -- because, for me,
7 also, I have to still look at whether or not there's antitrust
8 injury as a result of any monopsony power. And I just want to
9 be clear, Dr. Topel, I am not saying that you are conceding and
10 certainly the defendants are not conceding that, in fact, the
11 contracts have that effect, but I want to be able to distinguish
12 between what we agree about and what we disagree about as it
13 relates to what the principles are.

14 Go ahead, Mr. Isaacson.

15 MR. ISAACSON: Right. Given the number of people that
16 have shifted MMA promoters, I don't even think they say these
17 are in perpetuity, but --

18 THE COURT: Well, I actually don't think that's true,
19 but we don't have to decide that now. We'll get back to that
20 later.

21 MR. ISAACSON: All right.

22 BY MR. ISAACSON:

23 Q. Let me -- before we leave paragraph 200, there's been a lot
24 -- there's been discussion of the special sauce, things that
25 Zuffa contributes that are procompetitive. Okay. In this

2:15-cv-01045-RFB-PAL

1 paragraph, you're discussing whether two and three-year
2 contracts, whether 30-month contracts themselves are
3 procompetitive?

4 **A.** Yes.

5 **Q.** Okay. And that's -- I won't go through it all, it's laid
6 out here, but if the 30-month contracts are procompetitive,
7 what's the implications of that?

8 **A.** Well, if the -- if the 30-month contracts are
9 procompetitive --

10 THE COURT: Well, I think, Mr. Isaacson, I can draw the
11 implications of that. I mean, their whole argument,
12 Mr. Isaacson, is premised on the contracts. If they're
13 procompetitive, they don't have a case, right? I mean, I don't
14 need Dr. Topel to tell me that. I think that they will concede
15 that.

16 MR. ISAACSON: All right.

17 BY MR. ISAACSON:

18 **Q.** So, let's talk -- if we could flip slides, this is from
19 Dr. Singer's report, just to remind us of the variables. And
20 we've talked about these, time trend, year-to-year fixed
21 effect -- I think we've got these highlighted -- and fixed
22 effects by promoters. Do the time trend and year-to-year fixed
23 effects allow you to disentangle the effect of Zuffa on
24 rising -- on rising event revenues and from that of fighters?

25 **A.** No. The -- first of all, let's put this in context that

2:15-cv-01045-RFB-PAL

1 we're talking about Dr. Singer's regression here, and he tells
2 us about all the stuff that he put into the model. Now, my
3 understanding of this case is it started by looking at a
4 purported increase in foreclosure share that kind of looks like
5 that over time. And, so, one would have thought that we would
6 find that the evidence proffered would have been that, even if
7 we accept their wage share as the proper measure of some
8 monopsonistic outcome, that that thing was falling as this thing
9 was rising. And that's not what he did.

10 And, so, I have to say something here about the way
11 regressions work. And the way regressions work, to find the
12 effect of a variable -- in fact, Your Honor, you said something
13 before everybody even sat down I think when we started this
14 hearing. You said something, I hope you're going to teach me
15 about the variation that's being used to identify this,
16 something like that.

17 Q. I think it was source of variation -- the sources of --
18 A. The source of variations. Okay. So what's the source of
19 variation? The way a regression works is, as you know, because
20 I've listened to you talk about it, is this left-hand side
21 thing, and then there's a whole bunch of things on the
22 right-hand side. And I'm particularly interested in one of
23 these -- the coefficients on one of these things. So how do I
24 identify this?

25 The way econometrics works is you got -- you're looking

2:15-cv-01045-RFB-PAL

1 for the source of variation that's going to identify that thing,
2 and you want to get rid of the other sources of variation that
3 confuse you about that thing. So, when you --

4 THE COURT: Well, which variation? Are you talking
5 about variation in your dependent variable over time --

6 THE WITNESS: I'm talking --

7 THE COURT: -- or are you talking about variation in
8 the independent variable?

9 THE WITNESS: I'm talking about what variation in the
10 independent variable are you going to -- which source of
11 variation in the independent variable are you going to use to
12 identify its purported effect on the dependent variable.

13 THE COURT: Got it.

14 THE WITNESS: Okay? So --

15 MR. CRAMER: Your Honor, may I interrupt for one
16 minute --

17 THE WITNESS: Yeah.

18 MR. CRAMER: -- and just lodge an objection for the
19 record?

20 THE COURT: No, Mr. Cramer.

21 MR. CRAMER: I mean, the only objection is that this is
22 new. It's not in Dr. Topel's report.

23 THE COURT: Well, I haven't even heard --

24 MR. CRAMER: Okay.

25 THE COURT: He's explaining progression analysis -- or

2:15-cv-01045-RFB-PAL

1 regression analysis. I don't know that he needs to put that in
2 any report, honestly, Mr. Cramer. And this is just to help me
3 understand. So, I don't know that you need to put that in the
4 report, but -- so overruled.

5 MR. CRAMER: I was anticipating the next slide.

6 THE COURT: Well, let's see -- let's just go one step
7 at a time. Let's see where Dr. Topel is taking us.

8 THE WITNESS: Okay. All right.

9 So what the regression package does, and what the
10 econometrician has to know it does, in order to find this thing,
11 there's all kinds of variations: high-frequency variation
12 within a year, low-frequency variation over years, and the like.
13 What are you going to use? So, when you -- when you run the
14 regression, what the regression really does is it takes that
15 dependent variable -- excuse me -- that independent variable and
16 it runs a regression of it on all of the other stuff in there
17 and only keeps the part -- the residual that can't be explained
18 from that regression, and it says that's the source of variation
19 I'm going to use.

20 So in the language of econometrics, it uses the part of
21 let's call it foreclosure share. It uses the part of
22 foreclosure share that's uncorrelated with, orthogonal to, all
23 of the other stuff in the regression. It says, okay, that's my
24 source of variation, I'm going to use that variation to identify
25 the effect of foreclosure share on the dependent variable which

2:15-cv-01045-RFB-PAL

1 was the wage share.

2 THE COURT: Well, no. Well, you have a foreclosure
3 share variable.

4 THE WITNESS: Yes.

5 THE COURT: Then you have these other variables.

6 THE WITNESS: Yes.

7 THE COURT: And I guess I'm not understanding -- the
8 inclusion of the other independent variables helps you try to
9 isolate the effect of the foreclosure share variable. So I'm
10 not sure I am understanding what it is the point that you're
11 making because they all -- they're all going to be testing as
12 relates to their significance and potential relationship to each
13 other and their terms. And, so, I'm not sure what it is that
14 you're trying to explain to me.

15 THE WITNESS: Let's start with just -- suppose I have
16 one independent -- one independent variable. Let's call it
17 foreclosure share. And I got another variable that I can put
18 into the regression. So I can run a regression of just the
19 left-hand side variable on the one right-hand side variable,
20 foreclosure share. I can -- I can run that regression, and I'll
21 get some coefficient. I don't know what it is. Right?

22 Now, what happens when I put a second variable in?
23 Well, the regression package says, all right, we've got this
24 second thing in here. The only variation I'm going to use in
25 foreclosure share to identify its effect is the stuff that I

2:15-cv-01045-RFB-PAL

1 can't -- the part of foreclosure share that is uncorrelated with
2 this new variable, X_2 . That's what I --

3 THE COURT: Wait. Wait. Wait. Are you talking --
4 but, no, you can have two independent variables that have a
5 relationship to one another and then not being separated out.
6 Isn't that why you put some sort of interaction term or other
7 term in, again, the right-hand side of the equation? You could
8 still have variables that are significant, but are also related
9 to one another that are independent variables, can't you?

10 THE WITNESS: You -- of course you can have that.

11 THE COURT: Okay.

12 THE WITNESS: So, the question comes down to, when I
13 put the second variable in -- let's take an extreme example.
14 Suppose that I have this variable X_1 that I'm going to put in my
15 regression.

16 THE COURT: Right.

17 THE WITNESS: I think you're familiar enough with the
18 terminology that I can talk about that. And I can run the
19 regression. It will get a coefficient. And now I say, I'm
20 going to put in this other variable, X_2 . And suppose it's
21 perfectly correlated with X_1 . That's the multicollinearity
22 problem. I can't identify anything. So why is it a problem?
23 It's a problem because there's no variation in X_1 that's
24 independent of X_2 .

25 THE COURT: Right. I'm with you.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Okay. So what -- so what are you using
2 to identify the effect of X_1 ? The part of variation in X_1 that's
3 independent of X_2 .

4 THE COURT: If you're making sure that your model
5 accounts for that. All right. So, in other words, you have to
6 test for that to make sure that that's --

7 THE WITNESS: This is -- this is totally mechanical.
8 This is press the button, what the regression package does.

9 THE COURT: No, I understand that. What I'm saying is
10 if you're running it with a regression package state or whatever
11 you're going to use, software, if you have this problem as it
12 relates to independent variables, it will show up in your
13 analysis, right? If you run -- there are tests that you can run
14 on the model that tell you about the relationship between the
15 two --

16 THE WITNESS: You can tell -- you can figure out how
17 correlated they are, but what I'm focusing on is when I put X_2
18 in, I changed the type of -- the source of variation I'm using
19 to identify the effect of X_1 . And then when I put X_3 in, I'm
20 looking for variation in X_1 that's independent of X_2 and X_3 .

21 THE COURT: Right.

22 THE WITNESS: And so on. Okay?

23 Now, one of the things that's in Dr. Singer's
24 regression as you -- as you talked about yesterday, I think, is
25 a time trend.

2:15-cv-01045-RFB-PAL

1 BY MR. ISAACSON:

2 Q. So, if we can look to the next slide, you just
3 explained how --

4 THE COURT: Well, hold on. Hold on. Please, let him
5 finish --

6 MR. ISAACSON: Okay.

7 THE COURT: -- his answer.

8 Go ahead.

9 THE WITNESS: Okay. Is a time trend.

10 THE COURT: Right.

11 THE WITNESS: And he says that's in there, you know, to
12 control for unobserved stuff.

13 THE COURT: Time-related effects.

14 THE WITNESS: Time-related stuff we don't know about.

15 And fine. I -- that's fine. Put it in there. But what does
16 that mean? It means that you're taking -- you're using the
17 source of variation in X_1 , foreclosure share, that's left over
18 after you've taken out the trend in foreclosure share. So this
19 thing that was going like this before, over time, on average, is
20 now -- you've taken the trend out, and that's the picture we've
21 got up here.

22 And I've just put two dots. So the source of -- dot on
23 the left is above the trend line. Let's let this be within a
24 particular year. And the one over here is higher, but it's
25 below the trend line. So when you take the trend out, now the

2:15-cv-01045-RFB-PAL

1 source of variation I'm using is that the -- the lower one is
2 the higher one and the higher one is the lower one because
3 you've taken the trend out. The detrended data is now flat.
4 So, the -- you're really affecting the source of variation
5 you're using.

6 Now, when I do this -- when you think about this more
7 generally, there's a whole bunch of dots around that regression
8 line, that trend line that was fitted. Okay? But when you take
9 them out, when you take the trend out, you go (indicating) and
10 you get this. And now the dots are kind of flat. So the
11 variation you're using within -- is within a year, not this
12 long-term increase. It's within a year, and it's high-frequency
13 movements between one event and another within a year. That's
14 the source of variation that's left over to identify the effect
15 when you put a time trend in.

16 THE COURT: Well, why wouldn't the foreclosure share
17 capture it separately from the time trend? Yes, you're still --
18 the time trend is capturing a time effect, but the foreclosure
19 share, if it's -- foreclosure share variable, if it's
20 significant, is still capturing the impact of the foreclosure
21 share on the wage share. If what you're saying is based upon
22 that you can't then identify a time trend associated with the
23 foreclosure share because you've pulled that out with the
24 variable, why is that significant if the foreclosure share
25 itself, nonetheless, included with the time-share variable, is

2:15-cv-01045-RFB-PAL

1 still significantly impacting the wage share?

2 THE WITNESS: Because you're assuming I'll get the same
3 effect of foreclosure share from this kind of increase in
4 foreclosure share as I get from just little increase in
5 foreclosure share within a year. These are different sources of
6 variation.

7 THE COURT: So what's the length of the time-share
8 variable that he used?

9 THE WITNESS: What's the length of the --

10 THE COURT: Well, because if you're saying it detrends
11 it -- you would have to detrend it in part based upon, right,
12 the actual measure of the variable, three month versus four
13 months versus five months. If it's a trend beyond those
14 periods, it's not going to be captured in the time trend
15 variable, right? It would still be stuck in the foreclosure
16 share variable.

17 THE WITNESS: No. It's taking -- the -- putting the
18 time trend in along with the year dummies takes out all of the
19 substantive variation over time in the foreclosure share
20 variable. That's -- the source of variation you're using is not
21 the long-term temporal increase in foreclosure share. You're
22 using these differences that occur in the short run as, frankly,
23 his -- his foreclosure share changes by a lot, like it does in
24 2010/2011. We'll come back to that.

25 But you're using that, you're not using this to

2:15-cv-01045-RFB-PAL

1 identify it. You're using this, the variation around that time
2 trend. So you've taken out the long-run variation and you're
3 focusing only on very short-run variations like between events
4 in a particular year. And if you think about between events in
5 a particular year, most of the workers, most of the fighters are
6 under contracts that haven't changed within a particular year.
7 So there's not much margin for wages to change at that high
8 frequency.

9 THE COURT: Well, what if you just ran the regression
10 model at different points in time, wouldn't you then see --

11 THE WITNESS: Well, then you're taking out the
12 long-term time increase as well.

13 THE COURT: Well, no, you're taking -- you're going to
14 look at it at that point in time that it's actually being
15 analyzed, so, I think there's the ability to look at that. But
16 what you're arguing is basically is that the inclusion of the
17 time trend variable takes out the time-related effects, or rate,
18 or whatever it would be as relates to the foreclosure share
19 increase over time. Is that what you're saying?

20 THE WITNESS: Yeah. Now, the -- now, the time trend
21 variable in the regression, as you know, still picks up --
22 conditional on all of those other Xs, still picks up any
23 increase in the left-hand side variable, which they advocate,
24 which is the wage share over time. And if you look at that
25 coefficient on the time trend and --

2:15-cv-01045-RFB-PAL

1 THE COURT: So did you run these separate analyses as
2 relates to this? Because you see a difference in effect for
3 this variable in your report. And I'm just going to look for
4 it. Is this -- is this particular analysis as relates to the
5 effect of the time trend variable in any of your reports?

6 THE WITNESS: No. I'm just explaining -- well, the
7 time trend's in there.

8 THE COURT: No. Is -- your argument here is -- by
9 including the time trend variable, you're impacting
10 substantially the significance and effect of the foreclosure
11 share. And I want to just ask you, is that analysis or
12 discussion in any of your reports?

13 THE WITNESS: No. I'm just trying to explain the
14 source of the way the regressions work.

15 THE COURT: Well, you're not explaining, you're
16 actually making an argument about why the model doesn't work.
17 So it's not just an explanation about regression; it's actually
18 an argument as it relates to the effect of a particular
19 variable. You're saying that by including this variable, you
20 essentially decrease the significance, or the actual import of
21 the foreclosure share variable because the time trend variable
22 has an effect on the trend over time that's supposed to be
23 captured on a foreclosure share.

24 THE WITNESS: I'm just being clear, and I -- if you
25 reach the judgment that the source of variation within years is

2:15-cv-01045-RFB-PAL

1 good evidence, fine. I'm just telling you what the evidence is
2 coming from. And that's a different -- that's -- I'm trying
3 to --

4 THE COURT: I don't think that's necessarily true. I
5 think you're making an argument about what the evidence actually
6 is and what the significance of it is, which you're permitted to
7 do as an expert. But I'm just trying to figure out, in terms of
8 where your report links up with this, where I can look at that
9 as well when I'm going back through this. And if what you're
10 saying is it's not in the report, but you're trying to explain
11 earlier testimony where there was a discussion about capturing
12 the effects of certain policies or practices with the time trend
13 variable, and that's all you're explaining, I guess I could
14 consider it in that light. So, that's why I was asking that.

15 Okay. I understand the argument that's being raised.

16 THE WITNESS: And the time trend's in there. The
17 prediction is that the wage share is rising at about half a
18 percent a year. So over the period of this it would --
19 period -- over the class period, it would be about 5 percent.

20 THE COURT: Okay. Well, what we should -- look, we
21 need to take a lunch break at this point in time because we've
22 been going for a little while.

23 MR. ISAACSON: Can I ask one clarification question
24 just -- because you both have been using the term "time trend"
25 and at one point he said "time trend in year effects." And I

2:15-cv-01045-RFB-PAL

1 wanted to make sure that you both understood he was talking
2 about both. That's -- that's --

3 THE COURT: Yes. I think so. I think he was just
4 talking about the variable that Dr. Singer was referencing
5 earlier in his regression analysis.

6 BY MR. ISAACSON:

7 Q. But you were referring to the time trend variable and also
8 his separate year effects variables?

9 A. Yeah. Even if the year effects weren't in there, what I
10 just said is true. But the year effects make it even more
11 complicated.

12 MR. ISAACSON: That's it.

13 MR. CRAMER: Your Honor, may I just lodge an objection?
14 I know Your Honor has elicited the testimony that this was new
15 and not in Dr. Topel's report. I'll just note that Dr. Topel
16 had five reports in this case and apparently is going to file a
17 sixth. And none of this is in that report. So we've been
18 playing ping-pong, back and forth, Dr. Singer, Dr. Topel,
19 Dr. Singer, Dr. Topel. This has never come up until today.

20 THE COURT: Is that correct, Mr. Isaacson?

21 MR. ISAACSON: I think he's exaggerating it, and this
22 also goes to -- you'll see how this ties into things that we are
23 saying in our reports.

24 THE COURT: No. What I'm saying is you created a chart
25 obviously in anticipation of making this argument, which would

2:15-cv-01045-RFB-PAL

1 mean that you had to have at least talked to Dr. Topel about it
2 so he could explain it. And, so, what I'm asking you is, has
3 this argument been previously raised? Because if it isn't and
4 if it hasn't been and Dr. Singer hasn't had a chance, I will
5 strike it and not consider it. I don't believe, for any party,
6 that they should bring, when it comes to experts, new arguments.

7 Now, as I've said to you before, I will give you an
8 opportunity, Mr. Isaacson, to go through the record and explain
9 to me why you think this has been raised. But if it hasn't been
10 raised, I want to be clear, you cannot raise -- either side
11 cannot raise new arguments or explanations.

12 Now, it's one thing in response to my questions, but
13 this chart was created not in response to my question. This
14 chart obviously was created ahead of time to show an argument as
15 to why the foreclosure share doesn't have the stated sort of
16 effect that Dr. Singer has said.

17 You're permitted to make that argument so long as it
18 was previously raised. But this hearing is not an opportunity
19 to raise new arguments as relates to the modelling. And again,
20 Mr. Isaacson, I'm not saying you're doing that. I just want to
21 be clear to all parties that if that's what's happening, that's
22 not appropriate and the Court will not consider it and will
23 strike any arguments that are not part of what was in the
24 previous record.

25 So with that, why don't we take our lunch. We'll come

2:15-cv-01045-RFB-PAL

1 back in an hour. And we will proceed from there.

2 I'm going to stay on the bench for a few minutes.

3 Thanks.

4 (Recess taken at 12:54 p.m.)

5 (Resumed at 2:10 p.m.)

6 COURTROOM ADMINISTRATOR: All rise.

7 THE COURT: Please be seated.

8 All right. We're back on the record.

9 Dr. Topel, you recognize that you're still under oath?

10 THE WITNESS: I do.

11 THE COURT: All right. Mr. Isaacson.

12 MR. ISAACSON: Good afternoon, Your Honor.

13 Can we look at paragraph 6 of Dr. Topel's third report?

14

15 FURTHER DIRECT EXAMINATION OF ROBERT TOPEL, Ph.D.

16 BY MR. ISAACSON:

17 Q. This is -- at paragraph 6 you're discussing how aggression
18 works -- or regression works and how to isolate the variation in
19 X_1 . Without going through all of the details of this, is this
20 basically what you were describing to the judge earlier this
21 morning?

22 A. Yes, that's it.

23 THE COURT: Okay. Mr. Isaacson, that's -- with all due
24 respect, that's not what he was describing. What I meant by
25 this is that if you're going to --

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: I'm not finished.

2 THE COURT: Let me finish, please. If you're going to
3 attack a particular effect of a variable, then it shouldn't just
4 be the explanation. So, if there's a section of his report
5 where he says, I think that the time series variable effectively
6 detrended the foreclosure share, that's what I was talking
7 about.

8 MR. ISAACSON: Right. So, I'm moving forward.

9 THE COURT: Okay. So -- okay. Go ahead. I'm sorry
10 then.

11 BY MR. ISAACSON:

12 Q. All right. So, if we continue with this report, to
13 paragraph 29, okay, in which you're discussing the year fixed
14 effects -- time trend, year fixed effects, and promoter fixed
15 effects. And moving over then onto paragraph 30 and 31, you're
16 discussing Dr. Singer's impact regression which he's discussed
17 which includes promotional -- certain promotional expenses. And
18 would you explain how -- what you had to say there about these
19 variables and how it affected his regression.

20 THE COURT: Well, let me read that section first,
21 Mr. Isaacson.

22 MR. ISAACSON: Sure.

23 THE COURT: Just so I can familiarize myself with what
24 it is that we're talking about. Thank you.

25 (Brief pause in proceedings.)

2:15-cv-01045-RFB-PAL

1 THE COURT: Okay. Go ahead.

2 MR. ISAACSON: And if I could ask you then, as long as
3 we're doing this, to go back up to paragraph 28 which concludes
4 how this allowed his foreclosure share variable to appear to
5 remain significant.

6 THE WITNESS: This goes back to the time series
7 variation and --

8 MR. ISAACSON: Let -- let -- I'd -- let Your Honor read
9 it.

10 THE WITNESS: Oh, I'm sorry.

11 THE COURT: Yeah.

12 MR. ISAACSON: Bob, let him read this first.

13 THE COURT: Thank you.

14 (Brief pause in proceedings.)

15 THE COURT: Okay.

16 MR. ISAACSON: Would you like Dr. Topel to explain how
17 this relates to what he said before?

18 THE COURT: No. No. So what I'd like him to explain
19 is, did you test for this in paragraph 28?

20 THE WITNESS: Well, yeah, because --

21 THE COURT: So you ran a regression where the
22 foreclosure share wasn't significant controlling for these
23 effects?

24 THE WITNESS: That's not -- that's not what this is.

25 THE COURT: I'm looking at the last part.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Okay.

2 THE COURT: Where you said that "Dr. Singer chose to
3 put a readily entry" -- I'm sorry. "Dr. Singer chose to avoid
4 readily available event level data and instead manipulated the
5 data on Zuffa's promotional expenditures in a way that allowed
6 his foreclosure share variable to appear to remain significant."

7 So, what I'm asking you is, if it was not significant,
8 if you used that data, is that somewhere in your report that I
9 can look at it?

10 THE WITNESS: I believe it is, yes.

11 THE COURT: Okay. So you -- you ran a regression where
12 the foreclosure share variable wasn't significant if you changed
13 what you say are the manipulations here?

14 THE WITNESS: Yeah. I think that's what we're saying
15 if I recall.

16 THE COURT: Okay.

17 THE WITNESS: There's been a lot of back and forth
18 but --

19 THE COURT: Okay. So -- so -- okay. So I can --
20 again, I want to just sort of make sure that I look at that
21 portion of your report. So there's -- because I know you ran
22 some -- obviously, you did some statistical analysis yourself.

23 THE WITNESS: Yeah.

24 THE COURT: And I'm not sure if you or Mr. Isaacson
25 know where the analysis is where the foreclosure share variable

2:15-cv-01045-RFB-PAL

1 isn't significant when you try to basically undo what you say
2 are the manipulations by Dr. Singer. Can you point me to that
3 so I can do a direct comparison?

4 THE WITNESS: Well, I can't point you to it as I sit
5 here right now.

6 THE COURT: Okay. But you're saying you did run it?

7 THE WITNESS: We'll submit something, I think, right?

8 THE COURT: Well, no, no. I mean, is it -- was the --
9 was a statistical model run in which the foreclosure share was
10 not statistically significant when you essentially tried to undo
11 what you say Dr. Singer did?

12 THE WITNESS: Yes, and the preacquisition Strikeforce
13 was taken out, yeah.

14 THE COURT: Okay. So, when you --

15 THE WITNESS: That's my recollection.

16 THE COURT: So, you're saying that this paragraph
17 references your modelling where you took the preacquisition --
18 2012 preacquisition Strikeforce bouts out, the effect of that
19 was to then render the foreclosure share variable insignificant?

20 THE WITNESS: I believe that's what we had here, and
21 I'm pointing up here that --

22 THE COURT: That's what I'm trying to figure out. What
23 it is in terms of the argument when I'm -- what I'm
24 understanding, Dr. Topel, is if you excluded these Strikeforce
25 bouts, what you're saying is that that would impact this year

2:15-cv-01045-RFB-PAL

1 fixed effects and essentially would decrease or eliminate the
2 significance of the foreclosure share variable?

3 THE WITNESS: Well, if I can just point to a few
4 sentences up. When I exclude the -- if I exclude the 212
5 preacquisition Strikeforce bouts, there's no within-year
6 variation in Dr. Singer's promotional expenditure variable for
7 Zuffa. And the reason is that in every year it takes the same
8 value.

9 THE COURT: So, I guess the question is, why would that
10 matter if it doesn't have an effect apart from the foreclosure
11 share effect? So, unless there is something different about the
12 promotional value, what was the significance of changing this
13 variation within-year versus year-over-year?

14 THE WITNESS: Well, let me be careful here about what
15 this paragraph -- what this sentence is saying.

16 THE COURT: Okay.

17 THE WITNESS: There's no -- remember what we talked
18 about the Xs, and I've got year effects -- he's got year effects
19 in there.

20 THE COURT: Right.

21 THE WITNESS: So anything that is constant throughout
22 the year --

23 THE COURT: Right.

24 THE WITNESS: -- is just sucked right out by the year
25 effects because there's no independent variation. That's what

2:15-cv-01045-RFB-PAL

1 this is saying. So, his promotional expenditure variable, once
2 you exclude Strikeforce doesn't have any independent variation
3 within a year. That's the -- that's the content of that
4 sentence.

5 THE COURT: Why does that matter?

6 THE WITNESS: Because it -- because then the
7 controlling can't do anything.

8 THE COURT: Why would -- why couldn't they control for
9 things that occur on a yearly basis if it's year over year?

10 THE WITNESS: Remember that exchange we had before? If
11 I've got X_1 , X_2 , and X -- if I have an X_2 and I put it in the
12 regression and one of the X s is a year dummy for every year, and
13 that year -- and that variable that I put which is constant, it
14 only varies by year, the year dummies pick that up. It's
15 perfectly colinear with the year dummies. So there's no
16 independent variation within a year that would allow us to
17 identify any effect of that variable. So it's the point that
18 you have to find independent variations in something to estimate
19 anything.

20 THE COURT: So -- so, if there are different
21 promotional or other effects that occurred or that varied by
22 year, why would they not be picked up by the fixed-effects year
23 variable that varies by year itself? Why wouldn't this variable
24 capture differences in the way that Zuffa sought to promote
25 events that varied by year?

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Well, the point here was that these were
2 being put in as a -- Dr. Singer put these in as a variable -- as
3 a variable that did not vary by year and found that it didn't
4 really change his results. So we --

5 THE COURT: Right, but -- but what I understood was
6 that what he was saying is, is that it's not that it didn't
7 change his results. It's that the foreclosure share variable
8 still was significant and that this variable was capturing
9 differences in promotional approaches that would be captured by
10 a time series variable. And are you saying that a time series
11 variable would not capture differences in a promotion that
12 varied from year to year?

13 So, if Zuffa, for example, got better at things in
14 terms of promoting events or they spent more money, this time
15 series variable wouldn't capture that?

16 THE WITNESS: There's time series variable --

17 THE COURT: Right.

18 THE WITNESS: -- right, and then there's this
19 promotional expenditure that was constant -- it was one value in
20 2010, another value in 2011. Okay. So, when you put it into
21 the regression, but for the Strikeforce data, if you put it into
22 the regression and it's the same for every observation within a
23 year, then putting it into the regression can't affect anything.

24 THE COURT: Well, you --

25 THE WITNESS: So saying that you put it in and it

2:15-cv-01045-RFB-PAL

1 didn't affect anything, well, it couldn't have affected
2 anything.

3 THE COURT: So, but my understanding was in the fixed
4 effects variable there was information that varied by year, that
5 there were times when he ran the fixed effects variable that he
6 didn't include the promotion variable in part to address --
7 well, he then had a catchall variable, and I assume you're not
8 talking that sort of catchall variable that he had. But I
9 assumed that there was variation year to year as it related to
10 how Zuffa was promoting events and that's what the purpose of
11 this variable is.

12 Are you saying that he put the same value in year over
13 year for this fixed effect and that it had the same inputs year
14 over year so there would be no variation?

15 THE WITNESS: There's no -- the -- once you put the
16 year fixed effects in -- whatever it's picking up, it varies
17 over time. Once you've put those in, if you then bring in
18 another variable that is -- is constant in 2010, another value
19 in 2011, across all events in those years, that variable can't
20 have an effect. It can't do anything -- you can't identify an
21 effect because it has no independent variation. So it couldn't
22 have affected the regression because you've already got the
23 stuff that varies by year with it. So that's my point, that you
24 need independent variation in order to identify any effect.

25 THE COURT: Well, why would that variable then appear

2:15-cv-01045-RFB-PAL

1 significant in a regression? It wouldn't be significant, right?

2 THE WITNESS: It wouldn't -- it didn't -- it does
3 nothing in the regression and so it couldn't have affected
4 his --

5 THE COURT: Right, but would it still be significant?

6 THE WITNESS: Oh --

7 THE COURT: Would it still be statistically
8 significant?

9 THE WITNESS: No. The regression would just say forget
10 it, we're dropping this thing.

11 THE COURT: Right. It would not show up as a
12 statistically significant variable, right? Is that what you're
13 saying?

14 THE WITNESS: It wouldn't even show up with a
15 coefficient. The regression would say no.

16 THE COURT: Right. It would reject it.

17 THE WITNESS: I'm not putting that thing in there.
18 It -- it will run because the regression package. I mean,
19 you -- you've used data or something it sounds like --

20 THE COURT: Right.

21 THE WITNESS: -- and I know how it works --

22 THE COURT: Right.

23 THE WITNESS: -- it goes through the list and it says
24 no, this is colinear with everything else and throws it out.

25 THE COURT: Right. So you're saying that would have

2:15-cv-01045-RFB-PAL

1 have happened or should have happened here in the context of the
2 fixed effects variable because it's not capturing what he
3 purports it to capture?

4 THE WITNESS: He needs to have -- for that thing to
5 have any estimated impact, not only itself, but in order to
6 change the other coefficients in the regression if it could, it
7 has to have independent variation that's within a year.

8 THE COURT: And you're saying the inputs didn't vary,
9 independent --

10 THE WITNESS: That particular variable didn't vary
11 within a year.

12 THE COURT: Okay.

13 BY MR. ISAACSON:

14 Q. And just looking at paragraph 32 -- actually, I'll have
15 you -- paragraph 32 you have a statement: "If the variation in
16 revenue across these three events is in part related to Zuffa's
17 procompetitive investments, then Dr. Singer's linear time trend,
18 year fixed effects, and promoter fixed effects cannot account
19 for this. There is no linear trend and revenue, and Dr.
20 Singer's year and promoter fixed effects are" --

21 THE COURT: Can we -- I'm sorry, you're reading that
22 and then it went off the screen for a minute. I'm sorry.

23 MR. ISAACSON: I'm sorry.

24 THE COURT: Can we go back to where --

25 MR. ISAACSON: "There is no linear trend and

2:15-cv-01045-RFB-PAL

1 revenue" -- now go to the next page. Yeah, there we go, "and
2 Dr. Singer's year and promoter fixed effects are incapable of
3 distinguishing between these three events." And then you go
4 onto talk about the substantial variation that -- that does
5 exist. So would you explain that?

6 **A.** I'm finishing reading it. So, excuse me.

7 These are just examples of events that vary within a
8 year across events and can affect revenue, hence, the
9 denominator of the wage share.

10 **Q.** All right.

11 **A.** And, so, what it's showing here is that there's variation
12 within a year, but you're not going to be able to pick that up
13 with just -- with year effects and the time trend because these
14 are expenditures that are within year.

15 **Q.** All right. So, looking at a --

16 THE COURT: Hold on a second, Mr. Isaacson.

17 Why does that matter as it relates to capturing if
18 Zuffa was doing something better or worse? Because the
19 argument, at least I understood, was that Dr. Singer was saying
20 I put this in there to try to figure out if there were other
21 effects that are being captured by differences in practices. If
22 what you're saying is that it sort of averages it across the
23 year, what difference would that make other than you're saying
24 that -- that -- the average --

25 THE WITNESS: Can -- can we go up so I can read the

2:15-cv-01045-RFB-PAL

1 rest of this?

2 THE COURT: Right. The average doesn't capture the
3 full effect.

4 THE WITNESS: If I recall correctly, and I don't want
5 to spend too much time just reading this, that these are
6 examples of things that varied within a year in years 2010 and
7 2016 for a selection of events. And those -- these expenditures
8 varied across events, but they couldn't have been picked up with
9 his model -- he didn't have them in his model is my
10 recollection. And that they varied within -- across events
11 within a year.

12 So there's expenditures that vary within a year, but
13 those things are not in the regression so they couldn't have
14 been picked up --

15 THE COURT: So when you --

16 THE WITNESS: -- by year -- by just a trend and year
17 effects.

18 THE COURT: So when you say they're not in the
19 regression, are you saying they're not in the regression because
20 they're not separated out by event, or they're not in the
21 regression -- does that mean that they are, but they're combined
22 in that entire variable?

23 So what Dr. Singer had said earlier is that in fixed
24 effects variable, or one of these other variables, he, in fact,
25 had included essentially inputs that related to, for example,

2:15-cv-01045-RFB-PAL

1 the promotional or other investments that Zuffa made in events.
2 And I actually under -- at least maybe I -- I thought I
3 understood him to be saying that what he did was, essentially
4 for a given year, if he looked at promotional or investments, or
5 other investments, or other types of expenditures, those would
6 be captured in a -- in the variable by year, but they would be
7 included. So why would it matter, Dr. Topel, whether or not
8 there's variation for one event versus another event in a given
9 year if they're captured overall year by year?

10 THE WITNESS: Well, if revenues are varying within a
11 year, and that's an effect of the event specific or time
12 specific within the year promotional efforts, and those -- those
13 promotional efforts -- these would only be only some of the
14 things that can affect that variation. If they're not in the
15 regression, they can't pick that up.

16 THE COURT: Right, but I guess I'm not understanding.
17 Are you saying that he didn't include, in his fixed effects
18 variable or his promotion variable, separate investments or
19 expenditures by --

20 THE WITNESS: That's my -- that's my recollection. I
21 haven't looked at this paragraph in a while.

22 THE COURT: I'm not -- that's -- again, I'm trying to
23 understand if -- what you're trying to say, because it's
24 obviously a significant issue in this case, is that he didn't
25 control for separate inputs that are Zuffa specific. They don't

2:15-cv-01045-RFB-PAL

1 come from increased, whatever it is, marginal revenue product by
2 the fighters, but that somehow Zuffa was able to produce a
3 better product based upon its own business model. I understand
4 you to be saying that his fixed effects variable, along with his
5 promoter variable, don't capture that because they don't capture
6 within your variation for cost.

7 THE WITNESS: Within year variation.

8 THE COURT: But if -- if they have an annual
9 calculation, why would it matter statistically whether or not
10 the variable's based upon variations by six months -- within six
11 months versus variations within a year so long as the separate
12 investment itself is captured in a variable?

13 THE WITNESS: Well, the separate investments, if they
14 were fixed by a year or a time trend, he'll pick up that kind of
15 stuff. But the vary -- as we said, the variation that's being
16 used, once you put the time trend in and the year dummies, is
17 all within year. That's what's being used to identify all of
18 the coefficients, not just -- not just the foreclosure share,
19 all of the variables. It's got to be within-year high frequency
20 changes, not long-term changes.

21 So, the variables that -- if he wants to include things
22 that control for whatever differences there might be across
23 events, they are explainable by something observable, those
24 observable things have to vary within a year.

25 THE COURT: So he'd basically have to run it -- the

2:15-cv-01045-RFB-PAL

1 time-share variable based upon the six month or four month, or
2 what would be the way to capture that? So you'd have to
3 basically run it or change it so that it's a variable based upon
4 what occurred within a given month? Is that what you're saying?
5 Because then that would have greater variation. It wouldn't be
6 yearly variation, but then it would be by month or by quarter.
7 What would -- based upon your analysis, what would be the
8 appropriate time period for that fixed effects variable to
9 eliminate the significance statistically of the foreclosure
10 share?

11 THE WITNESS: Well, if you wanted to dive down into
12 trying to eliminate the statistical significance of the
13 foreclosure share, because it varies within a year, and that's
14 the variation that you're using, you have to find other things
15 that vary within a year. And if those other things aren't
16 available or the only things you can throw into the regression
17 are things that vary by year, it's not going to do anything.
18 That's the point that's being made.

19 THE COURT: So the point that's being made, again, is
20 that if there's something that varied by year in conjunction
21 with the foreclosure share, you're saying that wouldn't be
22 captured by Dr. Singer's model?

23 THE WITNESS: No, that would -- that would take out
24 both the variation and the foreclosure share over years, and the
25 variation in anything else in the regression over years. And it

2:15-cv-01045-RFB-PAL

1 would leave only the variation in the foreclosure share, the
2 variation in -- I'm looking at stuff here -- has ranked, win
3 flag, whatever, within a year because you've taken out all of
4 the trend effects and the year effects. So you need this -- to
5 identify things or to affect a variable that's still in there,
6 you got to find other stuff that varies across events within a
7 year.

8 THE COURT: Like ranking, potentially?

9 THE WITNESS: Yeah, ranking can vary across -- because
10 you got different athletes, or an athlete's rank changes.

11 THE COURT: Right. Okay. All right. Thank you.

12 Go ahead, Mr. Isaacson.

13 MR. ISAACSON: Can we look at Exhibit 5 to this report,
14 which was just referenced in the paragraph?

15 BY MR. ISAACSON:

16 Q. And here, I believe, you were illustrating the variation
17 that goes on within -- within a year as opposed to across years.
18 Can you explain that?

19 A. Yeah. As I recall this, we've got just examples of event
20 costs within a year. So, UFC Live had 1.9 -- 1.2 million. UFC
21 200 had 12.8 million in event costs. And then it shows the
22 variation event revenue that went along with it. So, the low
23 cost one had -- was associated with about 3 million in revenue
24 and the high cost one was associated with 55 million in revenue.

25 Q. All right.

2:15-cv-01045-RFB-PAL

1 **A.** That's the variation we're talking about within a year.

2 THE COURT: But why wouldn't it be captured -- even if
3 it's averaged, I don't understand why -- even if it varies
4 within the year, right, the foreclosure share's still got to
5 capture the overall, right -- by adding these things up over the
6 course of the year, it will capture what the sort of yearly
7 average is, wouldn't it?

8 THE WITNESS: Well, no, because in order to estimate an
9 effect of such a variable, any variable, once you got the year
10 dummies in there, if it only -- if you only put the average
11 value over the year in, that is a -- I'll use the word that we
12 talked about a little while ago, that's perfectly colinear with
13 the year dummies.

14 THE COURT: Right.

15 THE WITNESS: So there's no independent variation. The
16 computer just throws it out. Says no thank you.

17 THE COURT: Okay.

18 THE WITNESS: Okay?

19 MR. ISAACSON: And if we could just --

20 THE COURT: And, so -- I'm sorry.

21 MR. ISAACSON: I'm sorry.

22 THE COURT: You ran these regression analyses and you
23 came up with these same results based upon -- because there are
24 obviously tests for these types of problems in regression
25 analysis. And, so, can you just point out to me, Dr. Topel,

2:15-cv-01045-RFB-PAL

1 where you reran, to the extent you did, these analyses by
2 Dr. Singer and you came up with these problems, or what tests
3 you did to do that? Because, certainly, there are tests for
4 endogeneity and there are tests for multicollinearity. Did you
5 do any tests or run any regressions that establish that?

6 THE WITNESS: I'm not saying that we had variables that
7 varied within a year that could be put independently in once
8 this regression was run. I'm making the point that if you're
9 just putting things that varied by year, it's not going to
10 effect the results in -- the way he did it with Strikeforce then
11 you can have a small effect, but once Strikeforce was out,
12 couldn't do anything.

13 THE COURT: Right. So what I'm saying is I want to
14 make sure that I'm looking at the right portions of your report.

15 THE WITNESS: Yes.

16 THE COURT: As you know, there can be common problems
17 that are identified with regression models related to
18 relationships between the independent variables and the
19 dependent variable, and my question to you is I want to make
20 sure I'm looking at the right part of the report. What
21 particular analysis did you do to verify or not the validity or
22 problems with this regression analysis where statistically you
23 found problematic relationships between the independent
24 variables, or you found a problem as it relates to the overall
25 capture of the variation or the error term?

2:15-cv-01045-RFB-PAL

1 Are there someplace in your report where I can look at
2 a list or some -- some part that captures exactly what were the
3 tests that you did or the regressions you ran and -- you know,
4 different programs have different ways of testing these
5 problems, but did you do any of that testing of the model to be
6 able to show that in some ways it wasn't valid for what it
7 purported to represent?

8 THE WITNESS: And my recollection, I have to -- I'd
9 have to look back at the exhibits that went with this report.
10 So, if I review them later, maybe I can just say, Your Honor,
11 I've reviewed them, here it is.

12 THE COURT: Right. But, for example, for this
13 particular issue where you're talking about a problem with the
14 way that the variable is measured and that that creates an
15 issue, right, with the two variables, is there somewhere in your
16 report where you ran a regression that shows that it created a
17 problematic relationship between the variables or that it shows
18 the direct relationship -- the direct correlation relationship
19 that you're saying existed?

20 THE WITNESS: Well, let me be clear. If it's a
21 variable that doesn't vary within a year --

22 THE COURT: Right. I understand that, but what will
23 happen is --

24 THE WITNESS: So I can say -- I can say for practical
25 purposes, we ran that regression and it can't have an effect.

2:15-cv-01045-RFB-PAL

1 And we -- we did run the regression -- the one -- within-year
2 variation you got that way was to have Strike -- preacquisition
3 Strikeforce in there. And I think, if I recall correctly, we
4 showed that when you drop preacquisition Strikeforce, that has
5 an effect on his results. And the purported effect of this
6 fixed within-year promotional expenditure variable, that's -- if
7 I can say that's the right name for it, couldn't have had an
8 effect. So the regression said, no, I'm not taking that
9 anymore.

10 THE COURT: Right. And what I'm saying to you is, did
11 you do that? Did you run that? When you say the regression's
12 not taking that anymore, there would be --

13 THE WITNESS: My recollection is we did.

14 THE COURT: Okay. So, that's what I'm trying to find
15 out. There would be results from an analysis that would show
16 that. There would actually be some report that would come out
17 from the software that would say, this is a problem with the
18 variables you had, and I'm just trying --

19 THE WITNESS: I --

20 THE COURT: -- I'm trying to look for that.

21 THE WITNESS: I believe so, and I can't remember.

22 THE COURT: Okay. Mr. Isaacson, do you know where that
23 would be? Because here's -- here's what -- here's what --

24 MR. ISAACSON: I know I will have to ask.

25 THE COURT: Well, here's what I will tell you. What I

2:15-cv-01045-RFB-PAL

1 want to be able to point to is being able specifically, to the
2 extent that I can, identify those aspects of the problems with
3 the modelling that exist or doesn't exist. So, in other words,
4 the experts here have talked about different issues or problems,
5 but I want to be able to go back to the reports and point them
6 out. So if Dr. Topel or Dr. Singer is saying I ran a particular
7 regression and here's what the results were and they did or
8 didn't establish these problems, I'd like to be able to see that
9 other than simply having them say that so I can distinguish
10 between testimony and results that resulted from modelling. So
11 that's the only thing that I would like to be able to figure
12 out.

13 And, so, we don't, obviously, have to do that now,
14 Mr. Isaacson, but to the extent that you're aware of the
15 modelling that Dr. Topel did that came up with these types of
16 errors or problems, it would be helpful for me to see where
17 that's in his report.

18 MR. ISAACSON: Okay. Yes.

19 THE COURT: Okay. Let's go on from there. Thank you.

20 BY MR. ISAACSON:

21 Q. All right. I just want to briefly show you Exhibit 4 to the
22 same report. Exhibit 5 was examples. Exhibit 4, you actually
23 charted the variation within a year, and costs and revenues.

24 **A.** In 2010.

25 Q. Right. The -- and what's the significance of a relationship

2:15-cv-01045-RFB-PAL

1 between fighters -- between foreclosure share and fighter share
2 if you're -- if you're trying to determine what that
3 relationship is for events within a year instead of across
4 years? What's the significance of that in terms of whether
5 there's anticompetitive effect or conduct?

6 **A.** Well, the event costs in 2010 are varying in that way. And
7 as you can see there, you know, they're high. Revenues are high
8 when costs are high. Revenues are low when costs are low, in
9 general, but it's not perfectly correlated obviously. So that's
10 within-year variation that -- that -- and why is that important?
11 It's the -- revenue is in the denominator of the wage share. So
12 this -- this within-year variation and costs does a lot to
13 explain within-year variation and the wage share --

14 THE COURT: I'm sorry.

15 THE WITNESS: In revenues. Excuse me.

16 THE COURT: Say that part again.

17 THE WITNESS: It is associated with -- the variation in
18 costs is associated with the variation in revenues. And if you
19 note down here at the bottom, event total revenues and event
20 total cost minus event revenues are using Zuffa's events in 2010
21 that were included in Dr. Singer's impact regression.

22 THE COURT: So then did you run a regression that
23 included a separate event costs variable?

24 THE WITNESS: My recollection is we only had this for
25 some years. I'm not sure.

2:15-cv-01045-RFB-PAL

1 THE COURT: Okay. Because I'm saying because then it
2 would be -- what you're saying is that would be significant,
3 right? That would actually have an impact even on this --
4 particularly given what this chart may show, on the wage share,
5 right?

6 THE WITNESS: It could, yeah.

7 THE COURT: Well, it because -- well, it would
8 definitely, right, because if you're pointing to -- your chart
9 says that in some situations or events you have a high cost --

10 THE WITNESS: If we had that, it would explain
11 variation in the wage share.

12 THE COURT: Yes. That's what I'm saying.

13 THE WITNESS: Yes.

14 THE COURT: But that would be significant because that
15 would be an example of at least a potential argument for why,
16 for non -- or we'll just say for procompetitive reasons, there
17 was an impact or where there was a particular effect of cost.
18 In other words, as costs increase, that impacted directly the
19 wage share, hopefully. I mean, from your standpoint, I would
20 imagine inversely. So, that as the costs increased, you would
21 see because of the cost increase, less --

22 THE WITNESS: Wage share -- wage share would go down
23 and --

24 THE COURT: Wage share would go down.

25 THE WITNESS: And the question is how that affects

2:15-cv-01045-RFB-PAL

1 other variables.

2 THE COURT: Right. So did you run any analysis that
3 showed that if you had a cost variable, it had a significant
4 effect and that it had an inverse significant relationship with
5 the wage share?

6 THE WITNESS: This is an exchange that went on later in
7 the exchange of reports. And when we drop the acquisition of
8 Strikeforce and we put some cost variables that varied within
9 year, it did -- it did affect the results. It didn't wipe them
10 out, but it did affect the results.

11 THE COURT: Okay. So I'll -- and then we'll look --
12 and again, what I would hope, Mr. Isaacson, is that you and your
13 team will then point this part -- these things out to me so I
14 can look at them. Because, obviously, this is something that
15 would be significant, Mr. Isaacson, if, in fact, there is the
16 ability to show that event costs themselves directly impacted
17 the wage share such that it varied within potentially an event,
18 or by event, I should say, that might at least have some ability
19 to counter the argument that there was anticompetitive behavior
20 that was leading to the effect of the wage share change.

21 MR. CRAMER: Your Honor, may I ask a question?
22 Briefly? Just one quick question.

23 THE COURT: Yes.

24 MR. CRAMER: If Zuffa is going to come up with these
25 citations -- I don't think they will because I don't think they

2:15-cv-01045-RFB-PAL

1 ran this -- we would like it tonight so we can respond tomorrow
2 in the rebuttal, if they can do it.

3 THE COURT: Well, let's talk about that at the end of
4 the day because I do think it shouldn't be that difficult, even
5 though there are a fair number of reports. The reports don't
6 reference that many different regression analyses and their
7 appendices. So I would expect that we'd be able to have this
8 information identified at least over the course of the hearing,
9 and if we have to bring people back, we'll bring them back, but
10 let's proceed from there, Mr. Isaacson.

11 MR. CRAMER: Thank you, Your Honor.

12 BY MR. ISAACSON:

13 Q. All right. So, separate and apart from producing those
14 things, what I would like to have you explain is if there is a
15 relationship that's confined to what happens within years
16 between foreclosure share and fighter share, given this
17 variation, even if you control for it, if you just have a
18 relationship within a year, what does that say about monopsony?

19 A. Well, the numerator of the dependent variable is
20 compensation. And most -- most -- as we've discussed before,
21 most contracts last more than a year. They -- so some people
22 are coming up from time to time. Some people are signing new
23 contracts, but between events in a year there's unlikely to be
24 any systematic variation in the numerator compensation.

25 So the -- it takes -- it focuses on this difference

2:15-cv-01045-RFB-PAL

1 between events within a year rather than differences over a long
2 period of time that -- because you've taken out the year effects
3 and the trend.

4 Q. All right. If we could turn to another regression, slide
5 16.

6 All right. Now, this is where you ran Dr. Singer's
7 regression with compensation, or log of compensation and making
8 no other changes. Would you explain what you did and the
9 results?

10 A. Sure. The title up here says, you know, "Actual
11 Compensation is the Correct Dependent Variable." So what we did
12 is we took compensation and we made it real compensation, so it
13 was deflated by the CPI. So we -- we -- so increases are going
14 to indicate -- positive things are going to things -- indicate
15 things that would increase compensation. So this is the -- the
16 difference here is we're using the log of compensation. So if
17 things are measured -- effects are measured in approximate
18 percentages, percentage impacts.

19 And then we ran it. In the first three columns, this
20 is what -- what we didn't get to see in Dr. Singer's
21 presentation. We just ran for compensation on foreclosure share
22 and we did it for tracked, ranked, and headliner. And you'll
23 notice that for tracked and headliner, the coefficients are
24 positive but statistically insignificant. Those are "P" values
25 in parentheses. For the ranked market it's negative, but

2:15-cv-01045-RFB-PAL

1 statistically insignificant. That's a "P" value in paren -- in
2 parentheses. So, in all these cases you get no material impact.

3 Now, what that tells you is it's coming from the
4 denominator, the revenues, so that the relationship between --
5 we're -- that Dr. Singer is estimating is somehow picking up
6 variation in the denominator rather than variation in the
7 numerator, which is compensation.

8 And, in general, in an antitrust case --

9 THE COURT: So, let me ask you a question.

10 THE WITNESS: Yep.

11 THE COURT: Why is that inconsistent with what they're
12 saying? I thought the whole point of what the plaintiffs are
13 saying is, in fact, event revenue is going up and essentially
14 wages are -- or the share of that is relatively flat, right?
15 So, that's them exercising -- "them" being Zuffa or UFC --
16 exercising monopsony power. Why is this inconsistent with that?

17 THE WITNESS: Well, let's remember first the source of
18 variation. The source of variation is the same one we were just
19 talking about. This has got trend and year effects and all that
20 stuff. So, within a year, you're not finding much effect of
21 these changes. Between events within a year, controlling for
22 trend and year effects and stuff, you're not finding much effect
23 of these -- of these -- between events that are observed within
24 a year.

25 THE COURT: And this is -- this is using -- you say

2:15-cv-01045-RFB-PAL

1 you're using actual compensation for this?

2 THE WITNESS: We're using actual compensation per
3 athlete --

4 THE COURT: You're not using --

5 THE WITNESS: The change -- the changes were looking at
6 the logarithm of compensation and asking whether the logarithm
7 of compensation is increasing using the source of variation that
8 Dr. Singer uses within a year, controlling the year effects and
9 trend.

10 THE COURT: Yes, but --

11 THE WITNESS: And there's no relationship to
12 compensation.

13 THE COURT: Well, but isn't that assuming that the
14 compensation levels themselves are competitive? And how do you
15 test for the fact that they're not?

16 THE WITNESS: Well --

17 THE COURT: No. But I'm saying, you're using absolute
18 compensation, but doesn't that assume that the compensation
19 levels themselves as set are, in fact, competitive?

20 THE WITNESS: No.

21 THE COURT: So where would you see in your model
22 monopsony? If you're not including event revenue, which is one
23 way you'd be able to show that they're keeping, ostensibly,
24 let's say, profit and not passing it through, in your model
25 where could you see monopsony?

2:15-cv-01045-RFB-PAL

1 THE WITNESS: In this regression --

2 THE COURT: Right.

3 THE WITNESS: -- the -- the putative measure of
4 monopsony is the degree of foreclosure. And the degree of
5 foreclosure is very -- varying across events, but you couldn't
6 estimate anything.

7 THE COURT: No, but you're not going to see the effect
8 of the degree of foreclosure on a measure that would show the
9 foreclosure share. So, in other words, if the foreclosure share
10 affects the downward pressure on the wage, how is that going to
11 be shown in the model that doesn't show or try to capture that
12 effect because it's using absolute wages?

13 THE WITNESS: This is -- this is the downward pressure
14 on the wage.

15 THE COURT: Okay. Where? Okay. Just help me
16 understand. Where is that? Because -- because what you're
17 showing is you're assuming that the wages are competitive.

18 THE WITNESS: No, I ...

19 THE COURT: So what I'm trying to understand, and maybe
20 I'm not understanding this and you can help me, Dr. Topel, is
21 where does your model show, or not show, where would you expect
22 to see monopsony? What would it look like here if, in fact,
23 there's monopsony? What you're saying, the foreclosure share
24 would still be --

25 THE WITNESS: Negative.

2:15-cv-01045-RFB-PAL

1 THE COURT: -- would be negative, and it would be
2 significant?

3 THE WITNESS: Yeah.

4 THE COURT: But wouldn't that assume that the only way
5 you see monopsony would be a decrease in absolute wages?

6 THE WITNESS: That's what monopsony is.

7 THE COURT: Well, that's not what we talked about
8 earlier. What we talked about was that you could have wages
9 absolutely increase, but still be below the competitive wage and
10 that would still be monopsony power, right?

11 THE WITNESS: If wages --

12 THE COURT: Is that -- is that correct?

13 THE WITNESS: You can -- yes.

14 THE COURT: Okay. So how does your model capture that?
15 How does your model capture a monopsonistic situation in which
16 the absolute wages increase, but they are nonetheless below the
17 competitive wage level because of the exercise of monopsonistic
18 power?

19 THE WITNESS: That's not this regression. This -- let
20 me be clear about what this would show. And remember, the
21 plaintiffs' putative measure of monopsony foreclosure, monopsony
22 power, is this foreclosure share. When it's high, there's more.
23 When it's low, there's less. And they want there to be less.
24 They want to take it down to, by their measures, no more than 30
25 percent, 20 percent, 0, whatever it is. So when that

2:15-cv-01045-RFB-PAL

1 foreclosure share is going up, controlling for all of the other
2 things that are in this regression, this asks when foreclosure
3 share is high, which is a measure -- their measure of monopsony
4 power is compensation lower. Does that -- does the increase in
5 monopsony power reduce compensation?

6 THE COURT: Right, but your model does not, at all,
7 address a circumstance in which the absolute wages increase, but
8 there's still a significant exercise in monopsony power, right?

9 THE WITNESS: No. That's -- that's not right. I'm
10 sorry.

11 THE COURT: Okay. So, how does your model capture, on
12 these variables, a situation in which the absolute wages
13 increase, but they are still below what they would be if there
14 were competition?

15 THE WITNESS: So let's back to the year effects, the
16 trend --

17 THE COURT: No. I'm talking about the model right
18 here, this one.

19 THE WITNESS: No, no. But there -- those variables are
20 in there.

21 THE COURT: Okay. But I don't see them here. That's
22 why I'm saying --

23 THE WITNESS: All that stuff is -- there's not just,
24 like, that variable. All that stuff is in there. The only
25 thing that changed is instead of looking at the ratio, we looked

2:15-cv-01045-RFB-PAL

1 at the level of compensation as measured in logs.

2 So, whatever's going on with the trend up here in
3 compensation, whatever that's doing, we're looking at -- because
4 this is the way they set up their model, the variation in the
5 foreclosure share over a year.

6 Now, because of all of the things that I've said
7 before, would I expect to find a big effect? No, but it's their
8 model. And, so, foreclosure share, if it's -- if variation in
9 foreclosure share is a measure of variation in monopsony power
10 that affects wages, then a higher foreclosure share ought to be
11 associated with a lower wage within the context of their model.
12 It doesn't happen.

13 THE COURT: Yes, but you've taken out the part --
14 that's the part I keep trying to understand. You're using
15 absolute wages and absolute decreases or increases in
16 compensation. But you've acknowledged that, in fact, you can
17 have a situation of monopsony power where the absolute wage
18 increases, but nonetheless is suppressed by the exercise of
19 monopsony power such that the increase in the absolute wage is
20 nonetheless below what the wage would otherwise be if there was
21 not the exercise of monopsony power, right? That is a
22 circumstance that can exist within a monopsony, correct?

23 THE WITNESS: You're right most of the way.

24 THE COURT: Okay. Well, let me ask you this. Let's
25 take it step by step then.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Okay.

2 THE COURT: Can you have monopsony where the absolute
3 wage increases --

4 THE WITNESS: Yes.

5 THE COURT: -- but nonetheless is not what it would be
6 if there was full competition?

7 THE WITNESS: Yes.

8 THE COURT: Okay. So there can be a circumstance of
9 absolute increase in wages that nonetheless would still
10 demonstrate the existence of monopsony power?

11 THE WITNESS: Yes. Well, hold on. Hold on.

12 THE COURT: Okay.

13 THE WITNESS: It doesn't demonstrate the existence of
14 monopsony power. In order for what you said to be true --

15 THE COURT: Right.

16 THE WITNESS: -- and this comes back to -- look, you're
17 finding a positive coefficient here. This comes back to a
18 discussion that was had, and we'll have more about it, about
19 what's in the residual and things like that and how things are
20 correlated. These things could be biassed up towards positive
21 if for some reason variation in foreclosure share, whichever --
22 which -- you want to use, is positively correlated with the
23 residual in this regression. So there's some left-out thing
24 that would be making weight within-year that would be making
25 compensation go up that's positively correlated with the

2:15-cv-01045-RFB-PAL

1 variation that's left in the tracked, ranked, and headliner
2 foreclosure share.

3 THE COURT: Right, but your model doesn't at all even
4 address the issue of the fact that there can be a depressed wage
5 that's nonetheless higher than the -- than the previous wage.
6 In other words, where does the model capture the idea that, in
7 fact, the wage goes up, but it's still a suppressed wage?

8 Because if you're taking out the ratio as it relates to
9 foreclosure share, or the wage share, based upon this measure
10 which they use using other markets as relates to the fighter
11 compensation as a ratio of event revenue, your model doesn't at
12 all address in any way the potential that, in fact, there could
13 be an increase in wages, but nonetheless some type of monopsony
14 power. Where would that be captured? Because you've -- you've
15 essentially -- you're doing -- the dependent variable's based
16 upon absolute numbers and increasing.

17 So, there's no dispute in this case that the absolute
18 wages increased. No one's saying that they necessarily
19 decreased. What the plaintiffs' argument is, is that it -- as a
20 measure of the overall event revenue, it was either flat or not
21 what it would otherwise be compared to other markets. So, the
22 question is how is that captured here.

23 THE WITNESS: Well, if the only thing we're going to
24 say is revenues are impacted and wages were not impacted, you
25 know, let -- revenues are not on the left-hand side of this

2:15-cv-01045-RFB-PAL

1 regression, okay. Let me come back to what I was saying. What
2 the theory of monopsony says is that an increase in market
3 power, other things the same, other things being all those Xs
4 and anything that varies with time and year, increases in market
5 power will reduce the wage.

6 Now, if you say that this -- if this regression is
7 misspecified in some way so that something's left out that's
8 causing the wage to go up at the same time that foreclosure
9 share goes up, I'm with you. That could happen, but we need a
10 story about what that thing is.

11 Other than that, this is the variation that's being
12 used and it's saying when they have more monopsony power
13 -- let's go from -- suppose it varied within this year from .3
14 to .8. That would be a change in their foreclosure share
15 from .3 to .8 that they call a change in monopsony power. Did
16 that -- other things equal, did that -- all other things equal,
17 did that reduce compensation, because that's what monopsony
18 says.

19 THE COURT: Right, but all this model says is that if
20 you have an increase in event revenue, you have an increase in
21 absolute wages, right? That's what this says, right? And if
22 you have an increase --

23 THE WITNESS: No.

24 THE COURT: -- and that -- and if you're ranked fighter
25 or you're a headliner fighter, that also would have a positive

2:15-cv-01045-RFB-PAL

1 effect.

2 THE WITNESS: You're over on the right -- the right
3 three columns. I'm on the left three columns.

4 THE COURT: No. Okay. But what I'm saying is that
5 you're saying, that using the absolute wages, what this model
6 says is is that you can show, in terms of absolute wages, a
7 significant relationship between event revenue and absolute
8 wages. So if event revenue increases, right -- where is it?

9 THE WITNESS: You're in -- I'm on the left -- I'm on
10 the -- Your Honor, I'm on the left three columns.

11 THE COURT: Yes, but I'm on the right because I wanted
12 you to make sure that I'm understanding this correctly.

13 THE WITNESS: Yeah.

14 THE COURT: Your model says that if you use this model,
15 that if you have control for -- the event revenues for tracked,
16 ranked, and headliner fighters, that the event revenues have a
17 positive statistical significant relationship with the absolute
18 wages such that as, presumably, they go up --

19 THE WITNESS: As revenues go up --

20 THE COURT: The wage is going to go up.

21 THE WITNESS: I'm not making a causal argument there.
22 I just put it in there. If you read my report, I said I'm
23 putting this in here as a robustness check on the first three.

24 THE COURT: Right, but that -- but that's --

25 THE WITNESS: But it's there. It's there.

2:15-cv-01045-RFB-PAL

1 THE COURT: But that's the effect of the variable is
2 that if revenues go up, right, the wage is going to go up,
3 right? That's -- even if you don't say it's causal, that's what
4 the model shows that -- your model shows, right?

5 THE WITNESS: That's -- okay. Causal is an important
6 thing. So it's -- you said if revenues go up, compensation goes
7 up. I think what the -- what the plaintiffs were arguing this
8 morning about endogeneity is an argument that they think if
9 you --

10 THE COURT: Well, I'm not talking about that. I'm just
11 talking about me understanding what this model is that you put
12 up.

13 THE WITNESS: There is an association in the regression
14 of about -- that a unit increase in log event revenue raises
15 compensation per athlete in an event by about 8 percent.

16 THE COURT: And that -- and that the foreclosure
17 sale -- foreclosure share, however, based upon the data that you
18 tested, has no relationship with -- significant relationship
19 with the wages.

20 THE WITNESS: And that's -- and the prediction of
21 monopoly is that an increase in market power will -- since we're
22 on the monopsony side -- will reduce the price of the input in
23 labor. If we are on the monopoly side, it would be an increase
24 in monopoly power raises the price that the firm charges. But
25 the test is in terms of the price, here, the wage or the price,

2:15-cv-01045-RFB-PAL

1 the price of output.

2 THE COURT: Okay.

3 THE WITNESS: That's what I'm saying.

4 THE COURT: All right. Thank you. Again, thank you,
5 Dr. Topel.

6 BY MR. ISAACSON:

7 Q. You mentioned the 8 percent issue which the plaintiffs have
8 made much of. Why don't you address that?

9 A. Sure. First of all -- and we don't have the paragraph, do
10 we?

11 Q. Sure, we do. Well, I'm not sure what you're --

12 A. Okay. I'll just do it from memory.

13 There was a -- when we ran this regression, I -- it's
14 the first three columns that we drew attention to. And when
15 plaintiffs brought it in, they made it into like, well, this one
16 with revenue is the main contender, the one that I was most
17 interested in. And if you read it, I said, because -- I first
18 ran the first three columns with compensation without log
19 revenue in the model, although your attention was drawn to -- to
20 the -- possibly because of yesterday's discussion, or maybe it
21 was this morning. I don't remember.

22 I talked about these three, and then I said, well,
23 because plaintiffs want to control for the thing that they think
24 is a measure of marginal revenue product, I'm going to put it in
25 there, too. And then I have a note that says this is just a

2:15-cv-01045-RFB-PAL

1 robustness check on the first three columns. So what we didn't
2 get to talk -- or what plaintiffs didn't talk about is these
3 first three columns.

4 Now, when we talked about the inclusion of event
5 revenue, they've made an argument that there could be some
6 endogeneity. Now, what does endogeneity mean? Endogeneity
7 means that things that -- unobserved things that affect the
8 left-hand side variable -- here, compensation -- are correlated,
9 as I understood their arguments, positively correlated with the
10 right-hand side variable -- here, log event revenue. And if
11 that's true, then the coefficient on revenue would be biased
12 up.

13 Now, if in this specification, because of a
14 mathematical fact about logarithms, I could have run this
15 model -- if you took log event compensation of an athlete as a
16 proportion of revenues, that's equivalent to running this
17 regression that I had over here -- let's do tracked where the
18 coefficient's .0798. That is equivalent to running that
19 regression and constraining the coefficient on log event revenue
20 to be exactly 1.0. The same -- we force it to be 1.0 because
21 the log of a ratio is the difference in the logarithms. The log
22 of A over B is log A minus log B.

23 (Court reporter clarification.)

24 THE WITNESS: The logarithm ratio, log A over B, is the
25 log of A minus the log of B. So, running the ratio of

2:15-cv-01045-RFB-PAL

1 compensation to revenue is equivalent to just running
2 compensation and putting revenue on the right-hand side with a
3 coefficient constrained to be 1.0.

4 And as I understood their argument, revenue is
5 positively correlated with the residual in this regression,
6 which would say that it's biased up. So it ought to be bigger
7 than 1.0 on that argument. And what this is saying, it's
8 only .08, which is a long way from 1. And if you did this as a
9 test of their -- their view, it would say that the idea that
10 there ought to be a denominator on the left-hand side is
11 rejected.

12 THE COURT: Well, let me ask you this question then
13 based upon that. If I were to accept that the wage share is an
14 appropriate way to measure the monopsonistic power of a
15 particular entity, why would I then not leave event revenue in
16 the denominator and wage share?

17 THE WITNESS: Well, if you do that, then you do that.
18 That's your -- you just pre -- you just prefaced your question
19 by saying if I find that that's the right thing, shouldn't I use
20 the right thing.

21 THE COURT: So, and I'm asking you that, is, isn't the
22 question then whether or not wage share itself is an appropriate
23 way to capture an aspect of monopsonistic power? Because if it
24 is, then even if I accept your model, there would be no reason
25 for me not to look at their model and consider the effects of

2:15-cv-01045-RFB-PAL

1 that, correct?

2 THE WITNESS: Well, let's look at then, though
3 plaintiffs don't like it, if I looked at column 4.

4 THE COURT: Okay. No. But that's not my question. My
5 question is this.

6 If I accept that wage share is an appropriate measure
7 of monopsonistic power, monopsonistic power, is there anything
8 wrong with what the plaintiffs' modelling does?

9 THE WITNESS: Yes, but we'll get to that.

10 THE COURT: Well, that's -- but that's -- because part
11 of the argument here is -- and I'm not -- I'm not necessarily
12 disagreeing with the argument you raised about event revenue on
13 this, but there is an argument here which I think is a
14 legitimate one that relates to the fact that absolute
15 compensation isn't the only means by which we should look at
16 whether or not monopsonistic power has been exercised. And you,
17 yourself, have acknowledged that you can have an increase in
18 absolute wages and nonetheless there can still be an exercise of
19 monopsonistic -- monopsonistic power.

20 And, so, what I want you to point out to me is if the
21 wage share is, in fact, one way -- not the only way -- but one
22 way to measure monopsonistic power, what's wrong with how
23 they've done their own modelling? Because your model's based
24 upon a different assumption, which is that monopsony power would
25 show a decrease in the absolute wage. That's not their

2:15-cv-01045-RFB-PAL

1 assumption. You have also recognized that there can be a
2 different way that monopsony power can be exercised with the
3 absolute wages going up. So what I'm trying to figure out --
4 because it's not about your model versus their model. It's
5 about the problems with their model -- what's wrong with their
6 model if I accept that the wage share is an appropriate way to
7 look at monopsony power?

8 THE WITNESS: Well, Your Honor, I would say that no,
9 wage share is not an appropriate way to look at monopsony.

10 THE COURT: I know you say that. But if I believe that
11 it is based upon, let's say, comparison to other markets or
12 other reasons why I think that would be correct, is there
13 anything wrong with the model? If I make the assumption that,
14 in fact, it's an appropriate way to look at monopsony power, are
15 there other problems --

16 THE WITNESS: Yes.

17 THE COURT: -- with the model? Because that's what I
18 want to look at, too.

19 THE WITNESS: We're going to get to that.

20 THE COURT: Well, I would like to get to it now because
21 I don't want us to be doing this all -- for an extended period
22 of time because I take your point, well, you've already made,
23 which is if you look at absolute wages and the way we've run --
24 you've run your model, it doesn't show a relationship between
25 foreclosure share and an increase in foreclosure share or not in

2:15-cv-01045-RFB-PAL

1 the compensation levels, that if you look at the event level
2 revenue across these different markets, that's where you see an
3 actual statistically significant impact on compensation. I see
4 that.

5 But there is -- the other question is, one, is whether
6 or not wage share is the appropriate measure, but, two, if it
7 is, potentially, are there still problems to what they've done?
8 I'd like to move to that.

9 THE WITNESS: We'll get to that. We'll get to that. I
10 just want to reemphasize that the variation in wage share are
11 perfectly consistent with competition. And, so --

12 THE COURT: Well, that's actually --

13 THE WITNESS: -- there's nothing that identifies one
14 thing from the other.

15 THE COURT: -- for me to ultimately try to figure out
16 if there's enough evidence to figure that out, but we can talk
17 about that. But your model isn't testing wage share because
18 that's not what's on the left side of your equation on this one,
19 right?

20 THE WITNESS: Correct, with one caveat.

21 THE COURT: Okay.

22 THE WITNESS: With -- if the data light wage share as
23 the variable, that coefficient on the right-hand side
24 that's .08 --

25 THE COURT: Hold on a second. Let's pull it back up if

2:15-cv-01045-RFB-PAL

1 you -- if you all could, Mr. Isaacson.

2 MR. ISAACSON: Slide 16?

3 THE COURT: Yes. I just want to make sure we're
4 talking about the same thing.

5 THE WITNESS: If the data light wage share is the
6 dependent variable in this regression, putting aside whether we
7 like it or not as a -- as a measure of the outcome of
8 monopsonistic power, then the coefficient over there would -- on
9 log event revenue would have been close to 1. Because if -- as
10 I said before, running it as event revenue divided or -- excuse
11 me -- as compensation divided by event revenue is equivalent to
12 constraining that coefficient to be 1.0. So we need a major
13 endogeneity problem with a negative correlation with the
14 residual to get that number.

15 THE COURT: Well, they're saying there is because
16 you've moved event revenue over, right? That was what
17 Dr. Singer actually said.

18 THE WITNESS: Well, he said there's a correlation
19 between that thing and the residual. And when you do this in
20 econometrics, you need to explain why you think it's correlated,
21 not just say it's correlated. As I understood him to say it's
22 positively correlated with what's left out, which wouldn't put
23 us at .08.

24 THE COURT: Okay.

25 THE WITNESS: Okay?

2:15-cv-01045-RFB-PAL

1 THE COURT: All right.

2 Go ahead, Mr. Isaacson.

3 MR. ISAACSON: The --

4 THE COURT: So what I'd like to do is move exactly to
5 this issue of if -- or if there are regressions that take into
6 consideration the variations in wage share where Dr. Topel had
7 just said I looked at the differences in wage share and that I
8 found that even in the context of the differences in wage share
9 there are reasons that explain the differences that don't
10 reflect monopsonistic behavior.

11 MR. ISAACSON: Okay.

12 THE COURT: So, if you have questions about that, or
13 you want to point me to those parts of the analysis, that would
14 be helpful, Mr. Isaacson.

15 MR. ISAACSON: So we have already talked about the time
16 trend, the year fixed effects, and how this is all within the
17 year. So we've already done that. That's within the context of
18 the wage share regression.

19 THE COURT: Right.

20 MR. ISAACSON: Right. And we have not talked about
21 the -- well, how about -- why don't we flip to ...

22 THE WITNESS: I think 17 goes directly to --

23 THE COURT: I'm sorry, 17? I don't know what you're --
24 slide 17?

25 THE WITNESS: I don't know what numbers they have on

2:15-cv-01045-RFB-PAL

1 the machine, but ...

2 MR. ISAACSON: Yeah. You've got, yeah, a slide.

3 THE WITNESS: Yeah. This one here, yeah.

4 THE COURT: Okay.

5 THE WITNESS: And the title is kind of what you were
6 talking about, Your Honor.

7 So -- if you recall, actually Dr. Singer's discussion
8 from this morning, and I had some agreement, he got really
9 excited about this point.

10 THE COURT: And, I'm sorry, this is from page 125.

11 MR. ISAACSON: Exactly.

12 THE COURT: Let me pull it up, too.

13 So I can get the whole list of the variables.

14 MR. ISAACSON: Right.

15 THE COURT: So, okay. Go ahead.

16 THE WITNESS: It goes on -- the list goes on forever.
17 To our point, I didn't think of this until yesterday. When I
18 first looked at this regression, gender is in there and it's got
19 a very small effect. And I said, oh, look, you know, women
20 fighters and male fighters get paid the same amount, but
21 remember there are individual effects in there. And you have to
22 have independent variation in order to identify an effect. So,
23 somebody changed gender in these data or else you wouldn't be
24 able to find that very small coefficient of .006. That's just a
25 little bit of miscellany. Somebody either changed gender or

2:15-cv-01045-RFB-PAL

1 they miscoded that person's gender within their career.

2 All right. So let's go to some of these things that
3 are in here. And I want to go back to Dr. Singer's explanation
4 of correlation between an independent -- a right-hand side
5 variable and stuff that's left out of the regression. And,
6 Your Honor, if you'll remember, what's up here is, on the
7 left-hand side, compensation divided by event revenue. Okay?

8 On the right-hand side, the foreclosure share is the
9 number of Zuffa athletes weighted by Zuffa's average revenue per
10 athlete. So, the right -- if, systematically, Zuffa athlete
11 compensation or -- excuse me -- revenues go up, the left-hand
12 side goes down and the right-hand side goes up. So, that's --
13 what does that say technically? It says that things that --
14 unobserved things, and there's a lot of unobserved things in
15 these data, that affect revenue, the denominator, are in the
16 residual of this regression. And foreclosure share is
17 positively correlated with those -- excuse me -- negatively
18 correlated with those things.

19 THE COURT: Well, what are those things? I mean --

20 THE WITNESS: Anything that makes --

21 THE COURT: Yes, but I can't accept anything. Did you
22 test for things that you found that were missing that didn't
23 account for it? Because I can't just sort of base it upon the
24 fact that a variable could capture something missing. That
25 could be the case with any variable, right? So the idea that a

2:15-cv-01045-RFB-PAL

1 variable has some other variables subsumed within it, as you
2 know, that is a constant potential issue --

3 THE WITNESS: That's --

4 THE COURT: -- but the way that we deal with that is to
5 try to identify what would be the captured variable. So the
6 question is not whether or not there are things that are
7 captured in there, but are there things that you think that deal
8 with procompetitive conduct that you tested for that can be
9 pulled out of the foreclosure share?

10 THE WITNESS: This is different a point, Your Honor.

11 THE COURT: Okay.

12 THE WITNESS: This is -- the thing that's on the
13 left-hand side is, by construction, related to the thing on the
14 right-hand side.

15 THE COURT: Right.

16 THE WITNESS: Okay? One's got revenue in the numerator
17 up -- disproportionately in the numerator. The other's got it
18 disproportionately in the denominator. Up/down. And, so,
19 technically speaking, what that means is that things that affect
20 revenue and cause foreclosure share to go up negatively affect
21 compensation share. It doesn't have to do anything with
22 monopsony power. It's just down and up.

23 So -- so, I liked Dr. Singer's discussion of this today
24 because he said when something on the right-hand side is
25 correlated with what's on -- with the unobserved things in the

2:15-cv-01045-RFB-PAL

1 residual, that messes up the whole shebang. So let's look at
2 the rest of the shebang here.

3 The win flag, this is something that I understand
4 Dr. Oyer makes a big deal out of. We know systematically that
5 people get paid more to win. That is, in the typical contract
6 there's a show and a win, and win is doubled. So, that's a
7 systematic aspect of the contracts.

8 And what we find is that what this regression shows is
9 that there's no -- essentially no effect of winning on an
10 athlete's compensation share, or his wage share.

11 THE COURT: Isn't there a separate win variable besides
12 the win flag?

13 THE WITNESS: The past wins. Past wins, Your Honor.

14 THE COURT: Okay. I'm sorry. So hold --

15 THE WITNESS: Now, but remember what Dr. Singer said.
16 If you've got this endogeneity problem, one of the things it
17 does is it screws up everything and I don't trust any of the
18 coefficients in the regression. And what this is saying -- now,
19 look at the win flag. That ought to be positive. And when you
20 run it on log compensation --

21 THE COURT: Okay. When you say "it ought to be
22 positive," what is that based upon?

23 THE WITNESS: That compensation goes up when you win.

24 THE COURT: No, I understand that. But if, in fact,
25 the evidence demonstrates that winning doesn't matter and, in

2:15-cv-01045-RFB-PAL

1 fact, what matters is your name, you're Ronda Rousey or
2 whomever, you can keep losing and still have more money,
3 wouldn't you see that?

4 THE WITNESS: No. Your Honor, if you look at the --

5 THE COURT: No. Okay. But what I'm saying is
6 you're -- you have made this assumption that we should -- or
7 argument that we should assume that if you win, right, that that
8 is positively correlated with wage. But my question to you is,
9 isn't that the very reason why you run regressions? Because we
10 don't know that that's positively correlated.

11 THE WITNESS: We ran it.

12 THE COURT: Okay. So -- okay. So, you have a separate
13 run that you did.

14 THE WITNESS: So --

15 THE COURT: Okay.

16 THE WITNESS: -- those regressions that -- of log of
17 compensation on all the stuff, the coefficient on winning
18 is .33, and it's hugely statistically significant.

19 THE COURT: I'm sorry, where is -- where -- you're
20 reading from something that I don't have so --

21 THE WITNESS: It's actually the next slide. I'm sorry,
22 Your Honor.

23 THE COURT: Okay. No. That's all right. I just want
24 to make sure we're all --

25 THE WITNESS: I just want you -- I want you to know

—2:15-cv-01045-RFB-PAL—

1 this. This is showing 0 effect. Now, under Dr. Singer's theory
2 that this endogeneity problem messes up everything in the
3 regression, that's a good explanation for why that thing's
4 messed up.

5 Now, the other -- why it doesn't show any effect, when
6 we know it has an effect, and when you look at the log of
7 compensation, which we did in the last slide --

8 THE COURT: Okay. So here's what I'm trying to
9 understand. Dr. Singer has a variable that says win flag that's
10 not significant. He then has a variable that says wins.

11 BY MR. ISAACSON:

12 Q. Would you explain the difference between those two?

13 THE COURT: So help me understand.

14 THE WITNESS: Past wins, Your Honor.

15 THE COURT: So, in other words, this wins with an "S"
16 is a reflection of your record --

17 THE WITNESS: Yes.

18 THE COURT: -- overall, and the win flag is a
19 reflection of the particular win or not in an event?

20 THE WITNESS: Yes, Your Honor.

21 THE COURT: Okay.

22 THE WITNESS: And in the typical contract, let's
23 suppose somebody had, you know, you see these things referred to
24 as 25/25. That means you're going to get 25,000 for showing up
25 and engaging in the fight, and you're going to get another

2:15-cv-01045-RFB-PAL

1 25,000, so double, when you win.

2 THE COURT: Right.

3 THE WITNESS: Okay? And, so, subject to the law of
4 approximation, we ought to find a big positive effect of
5 winning. And on the -- or next slide, would you just pull up --
6 put the next slide up and then we'll go back to this one.

7 MR. ISAACSON: Slide 18.

8 THE WITNESS: Okay. When we look at log of
9 compensation, the same regression we talked about two slides
10 again, the win flag has a coefficient of .329, which is a big
11 positive coefficient, all right?

12 THE COURT: And this is --

13 THE WITNESS: You get more money for winning.

14 THE COURT: So this is, again, not based upon wage
15 share; this is your formula based upon absolute wages.

16 THE WITNESS: So, we're verifying that you get more
17 money --

18 THE COURT: Hold on.

19 THE WITNESS: -- for winning.

20 THE COURT: So, this is -- this is the same log model
21 you used previously --

22 THE WITNESS: Yes.

23 THE COURT: -- that's based upon absolute wages?

24 THE WITNESS: Yes.

25 THE COURT: Okay. All right.

2:15-cv-01045-RFB-PAL

1 THE WITNESS: Okay? Real wages, so it takes into
2 account inflation and whatnot.

3 All right. So, looking back, though, when you look at
4 it on-wage share, there's no effect of winning on your wage
5 share, even though we know your compensation went up. So that's
6 kind of odd, in my opinion. One, that's --

7 THE COURT: Why would it be odd if what you're getting
8 paid in compensation is not necessarily what you could be paid
9 based upon what you're generating? So, let's say, right -- I
10 don't know these names. Whatever. I know Ronda Rousey because
11 my daughter has said something about Ronda Rousey. Let's say
12 she got paid an initial \$10,000, but she's generating \$5 million
13 additional in revenue, right? That \$10,000 doesn't seem to be
14 necessarily reflective of what she may generate in terms of the
15 notoriety. So why would it matter if it's positive as relates
16 to absolute compensation if you don't capture what the
17 difference is between what the compensation is and what she
18 could have actually been paid in the context of what she
19 generates based upon her name recognition?

20 THE WITNESS: For the people in here, the winner -- I
21 got two -- 25 -- I got two people with the same contract, 25/25.
22 And they're fighting each other.

23 THE COURT: Right.

24 THE WITNESS: All right. And they're in the same
25 event. Revenues are in the denominator. One of them's going to

2:15-cv-01045-RFB-PAL

1 get 25 and the other one's going to get 50 because they get
2 double. All right?

3 The winner here is showing no difference from the
4 loser. So winning has no effect on your compensation share. It
5 ought to have a positive effect on your compensation share
6 because your compensation goes up in -- you know, your winning
7 the event didn't change the denominator, revenues. So, that win
8 flag ought to be positive.

9 Similarly --

10 THE COURT: So you're saying even in the wage share --

11 THE WITNESS: Yes.

12 THE COURT: -- the win flag should be positive because
13 even if they have more event revenue, or if they have more event
14 revenue, there should still be some positive correlation with
15 that. But if the event revenue, at least posited by the
16 plaintiffs, is actually generating more by name recognition than
17 who's fighting, why would you expect for the win flag to be
18 positive or negative? If -- again, that's what their argument
19 is, under this, I think it's McGowan and Mahon, that this -- the
20 name is more important than the win, which is --

21 THE WITNESS: That's -- that's -- this is controlling
22 for who it is. Remember, there's -- there's fighter-fixed
23 effects in here.

24 THE COURT: Okay. So this -- this -- even though
25 you're summarizing, this summary takes into consideration the

2:15-cv-01045-RFB-PAL

1 fixed effects, it just --

2 THE WITNESS: The fixed effects. All the other stuff
3 that's in his regression.

4 THE COURT: But it's just not listed here?

5 THE WITNESS: Right. That's a -- okay. You got it.

6 THE COURT: Okay.

7 THE WITNESS: We got it. All right. So, then the next
8 variable is rank. Okay. Now, remember, rank is, the top person
9 is 1; the next person is 2; and so on down.

10 And, so, rank doesn't have a statistically significant
11 effect either, but if you do it in the -- in the compensation,
12 if you do it in log compensation, rank is positive and highly
13 significant. So -- and, by the way, rank is -- the coefficient
14 should be negative. So the -- a bigger number for rank means a
15 lower ranked fighter.

16 THE COURT: Yes, but where does the modelling -- again,
17 I keep ask- -- I want to ask this. Where does the model capture
18 the difference between getting paid more and getting paid what
19 would be the competitive wage? What -- where does your model
20 capture that? Where does it say, okay, yes, I got paid more,
21 but in a truly competitive market I would get paid 10 times
22 more?

23 Where is -- in your modelling, where is there a model
24 that tries to capture that? Because that would be monopsony
25 power, right? Because the absolute increase in wage, again,

2:15-cv-01045-RFB-PAL

1 doesn't necessarily tell me anything. Is there any variable
2 that you looked at that would say not only did your wage
3 increase in absolute terms, your wage increased in terms -- in
4 terms that would be commensurate with what you would expect the
5 competitive wage to be.

6 THE WITNESS: I'll go back to my previous -- I want to
7 come back to this regression in a minute, but I'll go back to
8 the previous regression where we just talked about this. And we
9 said, look, imagine a situation where foreclosure share was
10 previously .2 and we judged that that's -- and we accept
11 foreclosure share, however measured, as some measure of
12 monopsony power.

13 Then at that level of foreclosure share, according to
14 the theory, compensation should have been competitive, or close
15 to competitive. And then foreclosure share goes up to .8.
16 Well, then compensation should have been less than competitive.
17 So I ought to find that when it goes from -- when it goes up,
18 compensation goes down controlling for everything else.

19 THE COURT: But --

20 THE WITNESS: That's the --

21 THE COURT: So the question -- I'm not talking about
22 absolute compensation. I'm talking about, right, relative
23 compensation relative to what the competitive wage would be.
24 And you keep telling me about absolute terms, but that's not
25 what I'm asking you about. I'm asking you about a situation

2:15-cv-01045-RFB-PAL

1 which you've identified previously that -- where absolute
2 compensation increases, but nonetheless, it doesn't increase to
3 a level that's commensurate with a competitive wage, right?

4 In that instance, right, I'm asking you about how you
5 capture that. Even if you have .2 or .8, right, as you relate
6 to the foreclosure share, right, that may or may not be
7 significant depending upon what your measure is of the wage.
8 And I'll still trying to figure out how you're measuring this
9 absolute wage as it relates to monopsony power.

10 THE WITNESS: Because -- let's try to be careful here.
11 The foreclosure share is proffered as a measure of the degree of
12 monopsony power. So when the degree of monopsony power
13 increases, that should have an impact on the wage level. Now,
14 you said relative to. If we went from .2, a situation where
15 foreclosure share is .2, and we stipulated that .2 is a
16 competitive place so we're measuring wages at .2, and then we're
17 looking at wages at .8, the relative wage at .8 ought to be
18 lower than at .2.

19 THE COURT: Right. And, so, how are you capturing --
20 you're using absolute wages. You're not capturing a measure
21 that goes from what would be the measure for a competitive wage.
22 That's what I'm trying to ask you. Where do you actually
23 capture a measure, or use a measure that tries to capture that?

24 THE WITNESS: Your Honor, in order to estimate this
25 effect, with the variation that's been given to us by the

2:15-cv-01045-RFB-PAL

1 plaintiffs' specification, there -- in order to find that, we
2 have to have a situation where somebody's being paid some amount
3 when -- when -- when foreclosure share is low. And somebody
4 else is getting paid some amount when -- or the same person is
5 getting paid some amount when foreclosure share is high. So
6 there's your experiment. Let's look at what happens to wages
7 when foreclosure share's low and compare it. That's what a good
8 regression does.

9 We're going to look at a situation of what's the wage
10 when foreclosure share is low, controlling for everything else.
11 Everything else is constant. And what's the situation -- what's
12 the competition when foreclosure share is high. That is a
13 relative wage, competitive, non-competitive.

14 And you don't --

15 THE COURT: You're talking about absolute numbers. And
16 I keep going back to this, Dr. Topel, because I feel like you're
17 actually not answering my question. And I want to be as clear
18 as I can be about it, which is, I'm not talking about just
19 absolute numbers. You have said repeatedly that you can have
20 monopsony power where there's an increase in wages, but
21 nonetheless, the increased wage is not a competitive wage. And
22 what I'm asking you is, how does your model capture that? How
23 does it capture a situation in which a fighter gets paid more
24 money, but they don't get paid the money that they would get
25 paid if the wages were competitive?

2:15-cv-01045-RFB-PAL

1 Where can I see that and what these coefficients tell
2 me? Now, you've talked about these numbers, but these are
3 correlate -- these are based upon a dependent variable that's in
4 absolute wages. Did you try to capture any modelling that
5 relates to a potential increase in absolute wages that,
6 nonetheless, the increase in absolute wages still is not an
7 increase that would be to a competitive wage? Where is that?
8 Because that seems to me to be one aspect directly countering
9 what it is that the plaintiffs are saying.

10 I take your point that you think that using the
11 absolute wages is the appropriate measure. I accept that that's
12 one of the arguments, but I also want you to answer my question
13 about a situation in which the wage goes up, absolutely, but,
14 nonetheless, is a situation in which there's monopsony power.
15 So, tell me about that.

16 THE WITNESS: Okay. So, let's think of -- remember we
17 talked about some competitive benchmark. All right? And that
18 would be a world in which people are getting paid some amount --
19 all other things the same, are getting paid some amount when
20 monopsony power is really low. And then if we want to make a
21 comparison, we have to find a world where all other things are
22 the same and monopsony power is really high. Okay?

23 So, let's -- without accepting it from my perspective
24 as a measure of power, let's say that's for his foreclosure
25 share. So we're going to go from a world over here, .2, to a

2:15-cv-01045-RFB-PAL

1 world over here, .8. All right? So what the -- what you want
2 to do is compare those two things. Are wages lower over here
3 when monopsony power is measured as -- it measures .8 and they
4 are over here when monopsony power is .2? And, so, for example,
5 let's say that we found over here, when it's .2, that wages were
6 10 percent higher than they are over here when monopsony
7 power's .8. Then the -- a change from .2 to .8 in foreclosure
8 would cause a 10 percent reduction in wages, all other things
9 constant, trend, all that jazz.

10 So that's the experiment that's being run here, is
11 compensation lower when monopsony power is higher. Holding
12 constant all of the other things that could affect wages, time
13 effects, year effects, everything, is it true? And that, I'm
14 using the same variation that they have. So, it's the
15 conceptual experiment that they're proposing. Are wages 10
16 percent lower when monopsony power as they measured it is
17 higher? And the answer is no. That's the no.

18 So, I did look at relative wages between two
19 circumstances where all of the other things that affect growth
20 and wages -- overall wages could have been growing through this
21 whole thing, but we're comparing, relative to that growth, what
22 was compensation when monopsony power was low and what was
23 compensation when putative monopsony power was high. That's the
24 conceptual experiment that's in the regression.

25 THE COURT: So how would I conceptualize what the

2:15-cv-01045-RFB-PAL

1 competitive wage would be over time? And what I mean by that is
2 even at .2, the wage is at a set level. Over time, let's say
3 there's an increased demand for the event and an increased
4 possibility for higher wages. What would be a way for me to
5 independently verify or to come up with some benchmark that
6 would establish what the competitive wage would be if I'm not
7 using fighters who are within the Zuffa or Strikeforce world?

8 THE WITNESS: Well, we've got this regression here.

9 THE COURT: No. And apart from that, how would I
10 establish what the measure would be for a competitive wage if
11 I'm not using this data?

12 THE WITNESS: Oh, if I'm not using these data.

13 THE COURT: Yes.

14 THE WITNESS: Because the experiment we just had here
15 is the competitive wage could be predicted from what would
16 happen when the foreclosure share was only .2 or 0 or something
17 like that.

18 THE COURT: Right. If I'm not using the Zuffa or
19 Strikeforce data, is there a way for me to come up with what
20 would be an appropriate or approximate benchmark for what would
21 be a competitive wage, all things being equal?

22 THE WITNESS: Not to my knowledge.

23 THE COURT: Okay. All right. That's helpful. Thank
24 you.

25 THE WITNESS: And remember, I said this before, if I

2:15-cv-01045-RFB-PAL

1 had thought of one, Your Honor, I would have told you.

2 THE COURT: No. Well, that's why I wanted just to
3 clarify that. I mean, part of this, why we're spending so much
4 time with this particular data, has to deal with the issue of
5 comparability and what comparable markets may or may not exist.

6 THE WITNESS: So, I want --

7 THE COURT: So that's been very helpful.

8 THE WITNESS: I want to emphasize that this -- again,
9 this is consistent with salaries -- wages and salaries being
10 set -- compensation being set in a competitive environment.
11 That's ... okay.

12 THE COURT: All right. Thank you, Dr. Topel.

13 MR. ISAACSON: So, at this juncture, Your Honor, we've
14 talked about fighter share, talked about issues of the
15 regression. We've now talked about his criticisms of
16 foreclosure share and --

17 THE COURT: That's partly what this model actually
18 statistically shows, that there's a criticism because it
19 actually has no significance. That's exactly what I thought we
20 were talking about.

21 MR. ISAACSON: The -- it is part of the model
22 obviously, yes. But the -- but there are other issues in terms
23 of how -- and we spent this morning on them with Dr. Singer to
24 some extent. There are issues about the calculation of
25 foreclosure share and why it's not an actual measure of

2:15-cv-01045-RFB-PAL

1 anticompetitive conduct. So --

2 THE COURT: Well, I don't -- again, I think part of
3 this, we should distinguish between it capturing what the
4 control may or may not have been over fighters, which I think is
5 one issue, Mr. Isaacson. And the separate is, whether or not
6 even to the extent there's some measure of control, that control
7 translates into -- or should translate into an inference by this
8 Court that that would necessarily mean that there's an exercise
9 of monopsony power because --

10 MR. ISAACSON: Exactly right.

11 THE COURT: -- because there are two distinct
12 inquiries, I believe, that need to be addressed separately, but
13 I do think you've, in fact, done that. You spent a fair amount
14 of time talking about, with Dr. Singer, the issues related to
15 the revenue weights. So I don't think we need to cover that
16 ground again --

17 MR. ISAACSON: All right.

18 THE COURT: -- because we covered it fairly well.

19 MR. ISAACSON: Yes. I went -- wasn't going to cover
20 revenue weights. Let me just look at slide 31 and see. I think
21 this goes to the inference that you were referring to. And you
22 tell me if you don't want to hear more about this from
23 Dr. Topel.

24 THE COURT: Well, I don't, because this is actually an
25 argument, I think, that all can actually make separately --

2:15-cv-01045-RFB-PAL

1 MR. ISAACSON: Okay.

2 THE COURT: -- which -- I mean, there are separate
3 arguments that I expect, Mr. Isaacson, Mr. Cramer, the lawyers
4 can make about the true impact of some of the clauses of the
5 contracts. I don't need a -- in particular, the expertise of
6 Dr. Topel or Dr. Singer in terms of contract interpretation.

7 MR. ISAACSON: All right. Let me ask to look at slide
8 39, which is Exhibit 20 to Dr. Topel's first report. Because I
9 don't think you've seen -- this has not been discussed and is
10 quantitative.

11 BY MR. ISAACSON:

12 Q. Would you explain this chart and ...

13 A. Yeah. My understanding is that --

14 THE COURT: And, I'm sorry. Excuse me, Dr. Topel. I'm
15 sorry, Mr. Isaacson. Where is this in -- for the record, where
16 is this chart in Dr. Topel's report?

17 MR. ISAACSON: First report, Exhibit 20.

18 THE COURT: Thank you. I just want to make sure that I
19 note it for the record.

20 Go ahead, Dr. Topel.

21 THE WITNESS: Okay. The -- this exhibit -- we've heard
22 a lot about acquisitions and the like driving up the foreclosure
23 share. So, this one just looked at the effect of acquisitions
24 on this putative foreclosure share. And what we did is removed
25 people who had been acquired -- had fought for somebody in the

2:15-cv-01045-RFB-PAL

1 previous -- in the two years prior -- for the acquired firm in
2 the two years prior to the acquisition and asked, okay, if these
3 people were not treated as Zuffa athletes ever, what happened to
4 the foreclosure share? And the foreclosure share as used by
5 Dr. Singer is the blue line, and the foreclosure -- and the
6 foreclosure share, removing the acquired athlete, is the dotted
7 blue line. The general pattern is -- there's a small difference
8 between them. The general pattern is the same.

9 I do want to emphasize to Your Honor the really
10 important role of those weights in producing the surge that
11 happens in 2010 and 2011. Because the weights used to calculate
12 the weighted share become colossally large. So that by 2013, an
13 athlete -- let me do Conor McGregor. Conor McGregor was
14 fighting for someplace in the UK. I can't remember the name of
15 it. He would have been counted as -- using relative weights as
16 one fighter. When he moved to Zuffa, he suddenly became 82
17 fighters for the purpose of calculating the share. And had he
18 stayed for just a little while and been released from his
19 contract and gone to Bellator, he would have -- for purposes of
20 calculating share, he would have been treated as one fighter.

21 For -- so, the upshot being that in 2013, the relative
22 weight, in calculating what share is, wasn't really high because
23 a whole bunch of new athletes had come along. It's because you
24 were counting each athlete as 81 athletes, if they worked for
25 Zuffa, and one athlete if they worked for somebody else.

2:15-cv-01045-RFB-PAL

1 The year before that it was 60.

2 THE COURT: Would you agree or disagree that the
3 headliner fighters drive the revenue for events such that they
4 should be recognized as having an increased ability to enhance
5 the revenues all along the ticket?

6 THE WITNESS: Sure.

7 THE COURT: Okay. So what would be wrong with
8 including weights for fighters who had the ability, like, say, a
9 Conor McGregor, to substantially increase revenue? Wouldn't
10 that impact the monopsony power of a firm if they controlled a
11 large number of fighters who were like that because that would
12 impact their control of the market?

13 THE WITNESS: Well, I agreed with the fact that if you
14 have a contract with somebody who's a big draw, who may be a big
15 draw because you found them and developed them, but let's put
16 that aside. He's a big draw, so those would be competitive
17 things. You can generate a lot of income.

18 Now, all of these people have contracts that eventually
19 come to an end. Yes, there's a champion's clause and things --
20 clause and things like that. But eventually they come up for
21 other people to recruit. So are other people foreclosed from
22 competing for them?

23 THE COURT: Okay. Well, but that's not my question.
24 My understanding was that the reason why Dr. Singer chose to
25 weight fighters differently based upon revenue was based upon

2:15-cv-01045-RFB-PAL

1 this assumption that the headline fighters, or the more
2 well-known fighters, drive the revenue for events. And, so, you
3 wouldn't -- you wouldn't equate a Conor McGregor with a fighter
4 who's ranked 650 in a weight class who's fighting on the bottom
5 of the ticket as it relates to your control of that fighter
6 versus control of Conor McGregor through contract. They're not
7 going to be equivalent in terms of that control on the market,
8 right?

9 THE WITNESS: Yeah. Your Honor, I'm not arguing that
10 no weighting is appropriate.

11 THE COURT: Okay. All right.

12 THE WITNESS: Okay? I'm telling you the weighting here
13 is kind of crazy when we're counting every athlete who fights
14 for Zuffa as 81 athletes and every athlete that fights for
15 somebody else as 1.

16 THE COURT: So what do you think would be a more
17 appropriate way to weight it?

18 THE WITNESS: You know, I didn't take it upon myself to
19 fix weighting.

20 THE COURT: Well, I'm just saying, because if you're
21 going to say that it's not a fair way, there should be some
22 system that I can look to say, okay, this is a more reasonable
23 way. I mean, it does seem to me that tying a fighter ranking,
24 or I should say weight to their revenue isn't necessarily, on
25 its face, illogical. You're not saying that, right?

2:15-cv-01045-RFB-PAL

1 THE WITNESS: No, but let me be careful. The worst
2 athlete at Zuffa, the worst one, you know, ranked 300 and
3 something is counted as 81 athletes, along with Conor McGregor,
4 in calculating Zuffa's market share in 2013. So that has -- if
5 you're -- if the weight you're giving to every Zuffa athlete is
6 81, that's going to have a big impact on your measure of what
7 their share is.

8 Now, are there ways to weight that would be more
9 appropriate? Well, you know, I can think back to the labor
10 economics literature and say -- let me give you an example.

11 THE COURT: No. But why would it be unreasonable, if
12 you're looking at the pool of fighters that a firm controls, to
13 equalize the weights across the fighters? I mean, at some
14 point, as you know, when you do these models, you have to make
15 some choices about which values you use. So why is that choice
16 an unreasonable choice from a statistical modelling standpoint?

17 THE WITNESS: Because getting a good athlete -- hiring
18 a new good athlete doesn't raise your share by -- anymore than
19 hiring a new bad athlete.

20 THE COURT: No. But, again, the question isn't about
21 the individual athlete. The question is about to the extent
22 that you add an athlete to the pool, that affects the pool
23 because even the athlete ranked 650, if they're on a ticket with
24 Conor McGregor, or if they're associated with Zuffa, that's
25 going to affect both the -- their compensation, but also affects

2:15-cv-01045-RFB-PAL

1 just generally how much control Zuffa has. So, I'm trying to
2 think of what would be, in your view, a more appropriate and
3 reasonable method for weighting than the one that was done here?

4 THE WITNESS: Well, I'll put one together off the top
5 of my head.

6 THE COURT: Well, I wouldn't want you to do that. I
7 mean, part of the attack here -- you all spent a fair amount of
8 time attacking the revenue, but in order for me to find that
9 it's not reasonable, you would have to have some way to say that
10 it's unreasonable. And simply saying you think that the result
11 is absurd doesn't help me because the fact of the matter is
12 there are many ways in which variables are measured that try to
13 capture as best possible variations. They're not perfect. And,
14 so, I need to be able to decide, Dr. Topel, whether or not it's
15 an imperfect variable but, nonetheless, the best that one could
16 come up with versus an absurd variable that isn't reasonable to
17 use.

18 And, so, what I'm asking you is, how do I make that
19 determination? Because you are simply saying that, and
20 Mr. Isaacson is saying, this is not an appropriate way to
21 weight. But in order for me to make that evaluation, it would
22 be helpful --

23 THE WITNESS: Well --

24 THE COURT: -- for me for you to be able to tell me
25 what would be a better way, or at least a more reasonable way

2:15-cv-01045-RFB-PAL

1 that either you did or didn't do, or other people have done in a
2 similar circumstance.

3 THE WITNESS: Okay. I've got -- I can tell you what
4 other people have done in similar circumstance and I can also
5 direct your attention towards, you know, reliability. You're
6 saying -- you said something like absurd or something. And, you
7 know, look at the growth in -- in share in 2010/2011. That's
8 not driven by more bodies. That's driven by --

9 THE COURT: I'm sorry, looking at the growth in?

10 THE WITNESS: In the slide up there --

11 THE COURT: Right.

12 THE WITNESS: -- look at the growth in foreclosure
13 share in 2010/2011. That's not driven by getting a bunch of new
14 bodies. That's driven by changing the weights over time. So
15 they rose from like 3 to -- in 2008, I think, to around 81 in
16 2013. So there's huge changes in weights that are generating a
17 lot of this variation.

18 THE COURT: So, but my question, again, is what would
19 be a better measure?

20 THE WITNESS: I am coming to that.

21 THE COURT: Okay.

22 THE WITNESS: Okay? I just wanted to -- you asked two
23 questions.

24 THE COURT: Right.

25 THE WITNESS: If something is crazy looking, tell me

2:15-cv-01045-RFB-PAL

1 why it's crazy. I just told you why it's crazy.

2 THE COURT: No. But that doesn't tell me why it's
3 crazy because if you accept the fact that the overall control
4 itself is significant, that Conor McGregor is, in fact, worth,
5 because of what he can generate in revenue, not just for himself
6 but for the other athletes who are on the ticket, 81 athletes,
7 why wouldn't that enhance, for example, the effect of an event
8 for someone who's way down on the ticket? They're not otherwise
9 going to generate the revenue that would be generated at that
10 event. So since the data is measured at an event fighter -- on
11 an event fighter basis, in the particular event, Conor McGregor
12 is, in fact, raising up everyone.

13 THE WITNESS: That can happen, but that's not what this
14 measure -- this is a foreclosure measure. So it's saying
15 that -- it's saying that this -- this is a share of the athletes
16 that other people can't come and get.

17 THE COURT: Right.

18 THE WITNESS: Okay. So we're saying that this guy, who
19 is ranked Number 350, who's on the bottom of a ticket somewhere,
20 is worth, I'm taking the extreme, in 2013, 81 athletes anywhere
21 else. Whereas, basically, he's interchangeable with anybody.

22 THE COURT: Right.

23 THE WITNESS: And, so, the weight that's being given to
24 his mere presence is forcing up the foreclosure share that they
25 have, and that's why it increased so fast. It wasn't a change

2:15-cv-01045-RFB-PAL

1 in the bodies. You know, I -- for -- Conor McGregor's weight
2 may be really big, we'll come back to that, but it's a change in
3 the relative weights. And why did that happen? I think, you
4 know, Mr. Isaacson alluded to it. It wasn't even because
5 Zuffa's revenues went way up. It's because Dr. Singer was
6 either forced to, or had to, or whatever, rely on a very small
7 sample of other events and revenues per -- per athlete were on
8 the order of \$4,000, which is tiny relative -- so -- so, we have
9 this huge revenue per event at Zuffa and this one event that's
10 being used to calculate \$4,000.

11 THE COURT: Right. So --

12 THE WITNESS: So that's the problem.

13 THE COURT: So, there is an unweighted foreclosure
14 share measure.

15 THE WITNESS: Yes.

16 THE COURT: Are you saying it wasn't statistically
17 significant?

18 THE WITNESS: No. Not in this -- not in this ranked
19 market.

20 THE COURT: No. No. No. In the impact regression
21 was -- I'll go back and look. I wasn't sure. Are you saying
22 that you can see that the problem with the weighting and the
23 absurdity of it, as you say, by looking at the foreclosure share
24 variable when it's unweighted, and when it's unweighted, it's
25 not statistically significant as it relates to wage share. Is

2:15-cv-01045-RFB-PAL

1 that right?

2 THE WITNESS: Yeah. There's two ways to do this.

3 THE COURT: Okay. But, first, let me ask you that
4 question. Is there modelling here that would indicate that the
5 unweighted foreclosure share is not statistically significant?

6 THE WITNESS: In the ranked market? Yes.

7 THE COURT: So in the ranked market -- because that's
8 what I want you to point me out to. So in the ranked market,
9 you're saying the unweighted foreclosure share is not
10 statistically significant and that I should take that as
11 evidence that, in fact, this weighting is not appropriate?

12 THE WITNESS: I'll do it another way.

13 THE COURT: Okay.

14 THE WITNESS: That if you assume that Zuffa always had
15 50 percent of athletes and then used the weights to calculate a
16 foreclosure share, that will make foreclosure share vary over
17 time. You get basically the same results that Dr. Singer gets,
18 which indicates that the results are due to the weights and not
19 the numbers. Okay. So the weights are driving things. Now,
20 some of the increase in the weights is due to an increase in the
21 quality of the fighters. I don't have a problem with that.
22 The -- the -- but the point is in this regression -- remember
23 what I said a while ago? The Revenue's up on the -- revenues up
24 makes foreclosure go up, but revenues up makes wage share go
25 down. It's not causal; it's mechanical. And that's a problem

2:15-cv-01045-RFB-PAL

1 with this because the model itself has this built-in correlation
2 with what he called the residual. So, that's the point I wanted
3 to get across.

4 Now, you had asked me a second question, and I have
5 forgotten what it was. Oh, weighting. And here's what's done
6 in the labor economics literature about weighting relative
7 qualities. So, one of the big problems that people have is
8 they -- you want to calculate, say, the number of high-skilled
9 or low-skilled workers who are in the labor market because
10 their -- their relative proportions can affect labor market
11 outcomes. And, so, we're going to make a category of people who
12 are high school graduates or less.

13 THE COURT: Well, no. I would like you to try to come
14 up with something in this.

15 THE WITNESS: I'm going to -- I'm going to give you the
16 background on how economists deal with this.

17 THE COURT: No. No. But I don't want -- I want you to
18 sort of -- given this particular data set, what would be a
19 different way to weight the fighters in terms of foreclosure
20 share? Would it be to simply not give them all the same number,
21 to say if you're not in the -- if you're not one of the
22 headliners and code for that and say you're going to get a
23 different weight?

24 THE WITNESS: You could do --

25 THE COURT: What would be a way -- a different way to

2:15-cv-01045-RFB-PAL

1 do that? And the second question is, did you actually run any
2 regressions where you changed the actual weighting or came -- or
3 used a different weighting system?

4 THE WITNESS: Well, Dr. Singer's done some different
5 weighting.

6 THE COURT: Right.

7 THE WITNESS: And we did some different weighting with
8 his different weighting. And -- but you asked me, you know, how
9 would a labor economist --

10 THE COURT: No. No. I want in this circumstance --
11 maybe I should have been more clear. Because it doesn't matter
12 if it's not in what's been presented to me, and maybe I should
13 have been more clear. In what you -- your reports that you
14 produced, do you reference other mechanisms for weighting that
15 you think are more reasonable than the ones that were used by
16 Dr. Singer?

17 THE WITNESS: I can't remember if I do, but it came up
18 in the discussion yesterday. I remember somebody said something
19 about weighting by compensation.

20 THE COURT: Okay. All right.

21 MR. ISAACSON: And just --

22 THE COURT: Mr. Isaacson -- I'm sorry, go ahead.

23 MR. ISAACSON: Just one follow-up.

24 BY MR. ISAACSON:

25 Q. Your Honor said -- talked about weighting Conor McGregor

2:15-cv-01045-RFB-PAL

1 differently from a fighter ranked 650th. If -- under
2 Dr. Singer's method, if Conor McGregor is fighting at a Zuffa
3 event and there's a Zuffa fighter who's ranked 650 in the world,
4 given the averages -- averaging he does, do they both receive
5 the same weight?

6 **A.** Yes.

7 THE COURT: I think that's the point -- that's the
8 problem with you they're trying to point out. What you're
9 trying to say is in that situation, you're giving weights to
10 people who otherwise wouldn't receive a weight even in the
11 context of their ability to impact the revenue, right,
12 Dr. Topel?

13 THE WITNESS: Well, and think of it as just the average
14 person in Zuffa.

15 THE COURT: Right.

16 THE WITNESS: Are they 81 -- do they count as 81 people
17 relative to a fighter who's fighting for Bellator?

18 THE COURT: So you're saying you don't necessarily
19 disagree with the possibility that Conor McGregor could count
20 for 81 people, but you're disagreeing with the possibility
21 that -- or disagreeing with the assignment of that same number
22 to everyone else who's associated with that event. Is that what
23 you're saying?

24 THE WITNESS: Well, there's that, and there's also the
25 circumstances where I can't remember, is it Mr. Henderson, moved

2:15-cv-01045-RFB-PAL

1 from Strikeforce to Zuffa to, I think, Bellator. I can't
2 remember. And he was counted as, I think, 17 fighters when he
3 was with Zuffa and he was counted as one fighter when he was
4 with the two -- other two organizations. So it's the same guy,
5 but he has different weights merely because he fights for Zuffa.

6 BY MR. ISAACSON:

7 Q. All right. And I just want to do two things. I'm well
8 aware of the passage of time. Just looking at slides 42 and 43.
9 42 is page 125, again, of Dr. Singer's report and it's got the
10 negative coefficients.

11 THE COURT: Oh, I'm sorry, which -- okay.

12 Mr. Cramer.

13 MR. CRAMER: Your Honor, I would just point out that
14 this argument on slide 42 is not in Dr. Topel's report.

15 THE COURT: Which argument? I'm sorry?

16 MR. CRAMER: The one -- the argument at the top of
17 slide 42.

18 MR. ISAACSON: At this point I'm just showing him the
19 negative coefficients.

20 BY MR. ISAACSON:

21 Q. And then turning to slide --

22 THE COURT: Okay. Well, let me -- let me hear the
23 argument, Mr. Cramer.

24 MR. CRAMER: Dr. Topel does not --

25 THE COURT: No. No. No. Let me hear what their --

2:15-cv-01045-RFB-PAL

1 what Dr. Topel is going to say and then I'll figure it out.

2 MR. CRAMER: Oh, I apologize.

3 THE COURT: That's all right.

4 BY MR. ISAACSON:

5 Q. So, just turning to slide 43, all right?

6 A. Yes.

7 Q. Would you explain how the negative coefficients work such
8 that you get all or virtually all class members impacted, except
9 for this list, who tend to be large stars like Conor McGregor?

10 A. Well, first of all, the coefficient minus .033 applies to
11 each person in an event because, after all, the data are the
12 people in an event and each one of them has a ratio of
13 compensation to revenues. And this coefficient says that the
14 impact -- a unit impact in foreclosure share reduces
15 compensation as a share of revenues by 3.3 percent. So, for
16 example, if I wanted to know what happens when we move from 90
17 percent to 30 percent in the foreclosure share, a reduction from
18 high to low, that would be a change in share of .6. So I could
19 look at this and say .0329 times the change in share of .6 is
20 about 2 percent.

21 So if you reduce foreclosure share in this analysis, in
22 this regression to .3, the prediction is that people in the
23 event would get about 2 percent more each of their share as a
24 share of revenue. So that applies to everybody in the -- in the
25 event.

2:15-cv-01045-RFB-PAL

1 THE COURT: Well, except for certain high --

2 THE WITNESS: No. That's all --

3 THE COURT: -- ranked individuals.

4 THE WITNESS: I'll come to that.

5 So, you know, I had initially thought that that's the
6 way damages would be calculated. Now, that would have a funny
7 outcome. We'll just start there with the funny outcome.
8 Because it would say that if I'm way down on the card -- let's
9 suppose that event revenue is \$10 million. Then 2 percent is
10 about \$200,000. So it would say that a participant in this
11 event ought to get \$200,000 more than they got. And that 200 --

12 THE COURT: I'm sorry. That's what you're saying the
13 model is that --

14 THE WITNESS: That's what's being predicted off of
15 the .0329.

16 THE COURT: Okay. But that's not the prediction as it
17 relates to the actual injury, right? That's not the way that
18 Dr. Singer did it. So, you're saying that if you just used the
19 coefficient for the injury, that would be one thing, but that's
20 actually -- we went through this yesterday --

21 THE WITNESS: Yeah.

22 THE COURT: -- because that was that chart, which I
23 don't think was actually a fair assessment or a summary of that.
24 And I think we're going back to the chart, even though it's not
25 on the screen. And, so, just using the coefficient isn't, as I

2:15-cv-01045-RFB-PAL

1 understand it, what he did to determine --

2 THE WITNESS: I'm going to explain that.

3 THE COURT: -- the injury.

4 THE WITNESS: I'm going to explain that, too.

5 So, absent anything else that is individual specific,
6 the person who fought for \$10,000 in that event is entitled to
7 \$200,000. And the person who fought for a million dollars in
8 the event is entitled to \$200,000. So \$200,000 is the starting
9 place for every person in the event. And then what Dr. Singer
10 did was adjust based on -- and really what he did is he just
11 subtracted off the residual of his regression.

12 THE COURT: Okay. So, when you say "he just subtracted
13 off the residual" --

14 THE WITNESS: Yeah.

15 THE COURT: -- again, we're going back to this slide.
16 That's not what he explained that he did. And, so, maybe you
17 could help me -- I mean, if you're going to say that he said he
18 went through -- he created regression and then he went backwards
19 from that and created a formula that he used to try to create
20 the predicted versus the actual --

21 THE WITNESS: And his formula --

22 MR. CRAMER: Your Honor, this is not in Dr. Topel's
23 report.

24 THE COURT: Okay. Well, let me try to figure out what
25 is he saying first before we get to that, Mr. Cramer.

2:15-cv-01045-RFB-PAL

1 So I'm trying to understand, Dr. Topel, what you're
2 saying about the injury calculation.

3 THE WITNESS: I'm saying that -- I totally agree that
4 he -- what he's done is he's used a predicted value from his
5 regression.

6 THE COURT: Right.

7 THE WITNESS: Not just a change in the share predicted
8 value --

9 THE COURT: Right.

10 THE WITNESS: -- he's used the predicted value from all
11 the stuff in his regression --

12 THE COURT: Right.

13 THE WITNESS: -- without the residual. And I'm trying
14 to help the Court understand how it is that these people on this
15 page got so little damages, or negative damage.

16 THE COURT: Well, I understand that part. He explains
17 that in the report. I actually understand that. You don't
18 actually need to spend time on that part.

19 THE WITNESS: Well.

20 THE COURT: Part of it relates to how they were
21 compensated and the way they're compensated and the uniqueness
22 of their particular contracts, and that's discussed also in the
23 report. So, if that's what this is for, I actually don't need
24 you to explain that to me. Because I understand why the
25 differences would be what they are and, in fact, you also talk

2:15-cv-01045-RFB-PAL

1 about that as well. So, why don't we move on from here,
2 Mr. Isaacson.

3 MR. ISAACSON: All right. I'm just going to say this.

4 THE COURT: Okay. Go ahead.

5 MR. ISAACSON: There's a question. Sorry.

6 BY MR. ISAACSON:

7 Q. The -- Dr. Topel, you're founder of the *Journal of Labor*
8 *Economics*. You've been in the field of labor economics for a
9 long time. How many regressions have you seen before this case
10 in labor economics with a wage share as the dependent variable
11 to measure the effect of a monopsony?

12 A. You mean the wage of an individual divided by the revenue of
13 the firm?

14 Q. Yes.

15 A. 0.

16 Q. Okay. And how many have you seen using log of compensation
17 to measure the effect of monopsony?

18 A. Well, the monopsony cases that I've seen use the level of
19 compensation nor the log of compensation.

20 THE COURT: So you're saying you've never seen any
21 monopsony analysis that looks at, in the context of professional
22 sports, wage share as a measure of the impact of monopsony
23 power?

24 MR. ISAACSON: Your Honor, my question was whether -- a
25 regression.

2:15-cv-01045-RFB-PAL

1 THE COURT: Okay. Mr. Isaacson, that's my question.

2 MR. ISAACSON: Okay.

3 THE WITNESS: People have looked at the share of
4 compensation in, say, professional baseball, when we knew that
5 monopsony was removed because of the removal of the reserved
6 clause, and looked at the change in the level of compensation
7 and as a share of revenue.

8 THE COURT: Okay. So then -- so then where -- I just
9 want to be clear. So you've seen it in some places and not
10 other places. Where have you seen it, and why would you say
11 it's not appropriate here? Because you use the log of
12 compensation, which you've talked about. Why would wage share
13 not be appropriate here if it was appropriate in baseball?

14 THE WITNESS: Okay. So, in baseball it was not the
15 wages of individuals divided by the revenue of the team. It was
16 the wages of all the players. And there you knew that a -- you
17 knew that a monopsony was coming to an end and, so, there was
18 going to be a redistribution from one side of the market to
19 another. Fine. Look at the shares. Look at the levels.
20 Whatever. It's interesting to find that there's this big
21 transfer that went on. But changes in share were not used to
22 infer the -- the existence of the monopsony. We knew it was
23 there.

24 THE COURT: And you knew it was there how?

25 THE WITNESS: You knew it was there because of the

2:15-cv-01045-RFB-PAL

1 reserve clause and guys couldn't get out, and as you pointed out
2 this morning, it lasted forever.

3 THE COURT: Right.

4 THE WITNESS: Okay. So this is not -- it wasn't a test
5 of the existence of a monopsony.

6 THE COURT: So you inferred the monopsony based upon
7 the reserve clause and the contracts essentially not letting
8 people out?

9 THE WITNESS: Yes.

10 THE COURT: Okay. And then you looked -- you're saying
11 then wage share was in that context used to examine what
12 happened as relates to the transfer potentially of sort of
13 revenue assets from the owners, I guess, to the players.

14 THE WITNESS: Sure. And then we ended up with
15 collective bargaining, and they fought over shares, too. Okay.
16 So, other than that, wage shares don't show up in anything that
17 I know of about monopsony regressions. That doesn't mean that
18 people don't look at labor share, for example, of national
19 income. One of the big debates in economics these days is why
20 has labor share fallen slowly over time. And some people say
21 it's because of an increase in concentration in product markets
22 and some people say it's because of a big decline in the price
23 of capital so we've bought so much more capital that labor share
24 went down.

25 Now, this is an important point to an economist. A

2:15-cv-01045-RFB-PAL

1 decline in the share of national income doesn't mean that
2 laborers were soft. So you add a whole bunch more capital,
3 labor gets to work with the capital -- the wagers are higher.
4 It's just that their share of national income is lower because
5 there was so much substitution towards capital. So this is a
6 big active area of research. So I don't want to say that
7 there's no area of economics -- heck, I teach it in my class,
8 but in the context of this case, trying to use it as a metric of
9 monopsony power, all of these outcomes are consistent with
10 competition, as I pointed out before.

11 So if you'd see the same thing with competition as you
12 see under somebody's theory of monopsony, that doesn't tell you
13 that the monopsony -- that the outcome is monopsonistic. That's
14 the point I'm trying to make.

15 THE COURT: Got it. Thank you, Dr. Topel.

16 MR. ISAACSON: Thank you, Your Honor.

17 THE COURT: All right. So, Mr. Cramer, I think what
18 we'll do is we'll just come back to do the -- I mean, I don't
19 want to really get started now. I mean, we could, but I want to
20 deal with some housekeeping issues first and, so, we'll have
21 your cross of Dr. Topel begin tomorrow.

22 Dr. Topel, you can step down.

23 THE WITNESS: Okay. Thank you.

24 (Witness excused.)

25 THE COURT: And then to whatever extent there is going

2:15-cv-01045-RFB-PAL

1 to be rebuttal with Dr. Singer, we can have that happen
2 tomorrow. We may not be half day, but I think we will have
3 enough of the day to be able to finish this out. And then we
4 can -- we can deal with other housekeeping matters.

5 But let's talk about what housekeeping matters we need
6 to address at this point.

7 Mr. Cramer.

8 MR. CRAMER: There was one item I wanted to mention.
9 Your Honor, yesterday, allowed Mr. Isaacson and Zuffa to file a
10 supplemental report by Dr. Topel, and I just wanted to
11 understand the parameters of that. The specific reason was that
12 Zuffa and Mr. Isaacson claimed that they didn't get an
13 opportunity to respond to a specific regression that Dr. Singer
14 ran in his last report. And I just want to get a clarification
15 from the Court that Dr. Topel's next report, to the extent that
16 they serve one, is limited to that and that we don't get a
17 report that then incorporates --

18 THE COURT: Well, I'm not sure that we need the report
19 now, so I'd want to know what it is we're going to be reporting
20 on because I think he's been fairly clear about the testimony.
21 And, so, maybe you can help me understand, Mr. Isaacson, why, at
22 this point, given his testimony, there would need to be another
23 report.

24 MR. ISAACSON: That's a fair question, Your Honor. I
25 would need to talk to the team and --

2:15-cv-01045-RFB-PAL

1 THE COURT: Okay.

2 MR. ISAACSON: -- because I would want to make sure
3 that it's within the confines of what your questioning's like.
4 What do you actually need at this point?

5 THE COURT: Right. I mean, at this point, again, I
6 asked some of these questions about what the models do and don't
7 show and what's in his modelling and his particular attacks on
8 both the assumptions and as relates to what the measures capture
9 but also even assuming some of the things that are assumed by
10 the plaintiffs' modelling, whether or not there are problems
11 with the way that the regression analysis was actually done, and
12 he's talked about both of those things. So it's not clear to me
13 what else would be added by additional model and it seems it
14 would only invite further modelling from the plaintiffs' expert.

15 So, I really, at this point, want to know if there
16 would be some additional value added before I would allow for a
17 supplement because I do think Dr. Topel has testified
18 extensively today about what are the issues the he had and has
19 with the plaintiffs' modelling.

20 MR. ISAACSON: All right. I hear you, Your Honor. I
21 don't want to do that off the top of my head.

22 THE COURT: Okay.

23 MR. ISAACSON: If we have something that's value-added
24 that doesn't create that sort of problem, I will -- I can bring
25 it up. On the flip side, Dr. Singer -- we're not quite sure

2:15-cv-01045-RFB-PAL

1 what to do about this. Dr. Singer has sort of alluded to and
2 referenced regressions that we hadn't heard about before. He
3 hasn't described them in great detail, but he mentioned this
4 sensitivity or that sensitivity that we haven't heard about.
5 And we're not quite sure what to do about that. We're loath to
6 demand them and go down the road of what you described, or maybe
7 it's best we just point it out that we don't -- where he said
8 it, we don't have these.

9 THE COURT: So, and I think both sides can do this,
10 where you all think that the experts have referenced new studies
11 or new findings, it's fair to ask each side where that is in the
12 reports. And what I would ask you to do is to do that tonight
13 and come back tomorrow to let me know. I don't want to do this
14 in briefing when we're all not here. And I think you all have
15 large enough teams that someone has been writing this down and
16 will be able to relate that to me tomorrow. And, specifically,
17 what I'm talking about, Mr. Isaacson and Mr. Cramer, is if
18 you're going to argue that an expert offered an opinion that's
19 substantive that supports a particular theory but that wasn't
20 previously offered, then you should identify that and then ask
21 the other side for that as it relates to information or pointing
22 that out.

23 So, for example, today, Mr. Isaacson, you did go
24 through and identify what you understood to be the basis -- or
25 later today, after I had asked, what you understood to be the

2:15-cv-01045-RFB-PAL

1 basis for the chart, which you thought was essentially a way of
2 capturing Dr. Topel's comments about what the time-share
3 variable was doing to the foreclosure share variable. That
4 seems to me to be fair to be able to do that. But if you're
5 going to argue to me that a particular argument shouldn't be
6 considered or I shouldn't review the data for that, then you
7 need to just let me know what it is. Okay?

8 MR. ISAACSON: We will do that.

9 THE COURT: All right. Mr. Cramer, any questions about
10 that?

11 MR. CRAMER: We will do the same.

12 THE COURT: Okay. So what else do we have to do today?

13 MR. CRAMER: Oh, Your Honor, we understand that Zuffa
14 filed with the Court a complete set of its power points and --
15 even though they didn't show all of the PowerPoints, and we
16 would just ask if the Court wants a complete set from both
17 sides.

18 THE COURT: Sure. I assume that you all are going to
19 give me whatever it is that you all have that you're showing
20 here.

21 MR. CRAMER: Okay.

22 THE COURT: Now, unless I've admitted it, right, it's
23 not going into the record, just so we're clear. The fact that
24 you've provided something to me isn't enough. What will get
25 admitted into the record in this case will be the doctors' -- so

2:15-cv-01045-RFB-PAL

1 far, Dr. Singer and Dr. Topel's actual reports, and that's it,
2 just so we're clear. To the extent that you used
3 demonstratives, that's not evidence in this record for me, and I
4 just want to be clear about that so that there's no confusion
5 about what I'm going to rely upon. I'm going to be relying upon
6 the testimony and the reports and that's it.

7 If you want something else for me to consider, then you
8 need to make sure you ask for it in order for me to consider it.
9 Okay?

10 MR. ISAACSON: Yeah. What we understand is we're
11 putting them in the record as demonstratives, not as evidence,
12 to indicate what went on at this hearing.

13 THE COURT: No. They're not going into the record is
14 what I'm saying to you. The fact that you're giving them to me,
15 I'm not going to put them into the record as exhibits. They're
16 not going to be docketed. They're for me to reference if you
17 bring them up on the screen, but I'm not going to admit them as
18 exhibits to the hearing.

19 MR. ISAACSON: So, for purposes of completeness of the
20 record, I mean, for example, we want their demonstratives on the
21 record to show the arguments that they made in this hearing.
22 Just as demonstratives, again, not suggesting you're admitting
23 them as evidence.

24 THE COURT: So -- okay. So let me be clear. So,
25 certainly, if you want a copy of them because they were shown

2:15-cv-01045-RFB-PAL

1 and because you want to argue that, in fact, what was argued
2 about the demonstrative is inconsistent with the report, you can
3 do that. So, let me be clear. They can be part of the record
4 to the extent that they are used in testimony and if you want to
5 compile a list of them for that purpose. I'm not accepting them
6 as evidence of any particular fact or any particular finding.
7 I'm going to use the reports and the testimony for that. But it
8 would be helpful, and I agree Mr. Isaacson, for both sides to
9 have lists of things that were shown so to the extent that there
10 were testimony about them that I can -- bless you -- that I can
11 see that.

12 So, many of the things that were shown were actually
13 from the reports, which is why I asked you when you were asking
14 questions about it, to identify it. But you are correct
15 Mr. Isaacson, I think there are a few different things, there
16 might have been some testimony where it's unclear, at least,
17 whether or not the demonstrative was a part of a report, and
18 that's fine to include that. So if you all want to get together
19 and present a list to me tomorrow, that's fine.

20 MR. ISAACSON: Okay. We will do that.

21 THE COURT: All right. So, what else do we need to do
22 today for housekeeping?

23 So, for tomorrow, Mr. Cramer, I will give you an hour
24 and a half, two hours maybe at most for Dr. Topel, the cross as
25 we did a little bit longer, and then a few hours on rebuttal for

2:15-cv-01045-RFB-PAL

1 Dr. Singer. So we'll probably go the full day tomorrow. Then
2 after that, we can talk about what we're going to do in the
3 context of the remaining experts and what we need to do on
4 preparation.

5 MR. ISAACSON: In terms of my preparation, do you
6 anticipate me examining Dr. Singer after his rebuttal?

7 THE COURT: I mean, I might give you some latitude to
8 ask some clarifying questions. Mostly what I would expect is
9 Dr. Singer just to come up here and to say, I disagree with the
10 characterizations of this or that and the other and explain
11 that. I don't expect that Mr. Cramer is going to be asking a
12 lot of questions. I expect that he's essentially going to ask
13 him, you've heard the testimony of Dr. Topel. Where do you
14 disagree, and that will essentially be a back and forth more or
15 less as it happened today with me, more or less, me with
16 Dr. Singer trying to help me understand and clarify some of the
17 aspects of Dr. Topel's critiques of his analysis. And, so,
18 that's what's going to happen.

19 And I appreciate the fact that the lawyers are not used
20 to sitting there and just letting their witnesses testify for
21 long periods of time, but I will remind you that I've read your
22 briefs and you've had arguments and part of the purpose of this
23 is not to repeat that, but for me to understand the significance
24 of these arguments and really to sort of test specifically the
25 plaintiffs' theory to the extent that it could survive the

2:15-cv-01045-RFB-PAL

1 standard that's applicable as it relates to certification in the
2 modelling.

3 MR. ISAACSON: That's why I asked. I will confine
4 myself to clarifying questions.

5 THE COURT: Okay.

6 MR. CRAMER: And, Your Honor, I'm going to take that to
7 heart. My cross will not be two hours. It will be shorter.

8 THE COURT: No. I mean, I would expect you to focus on
9 some of the issues that are raised or potential clarifications
10 or pointing things out as relates to Dr. Topel's testimony. But
11 what I really would be the -- what's going to be the most
12 helpful is to hear Dr. Singer come back and say, this is what I
13 did. Because from the standpoint of the burden, the burden's on
14 the plaintiffs and it's not so much about Dr. Topel's model,
15 even though I asked him about it. That doesn't actually really
16 matter. That's why I had asked him questions about Dr. Singer's
17 model, because that's the model that has to survive scrutiny in
18 order for the case to move forward.

19 MR. CRAMER: Yeah. We agree, Your Honor, and that's
20 why my cross is going to be limited.

21 THE COURT: Okay.

22 MR. ISAACSON: And Dr. Topel is obviously going to be
23 here. If you have questions for him at the end of all of that,
24 that's up to you.

25 THE COURT: Certainly. Well, you know, again, I would

2:15-cv-01045-RFB-PAL

1 have no problem, as I'm sure you have seen --

2 MR. ISAACSON: Yes.

3 THE COURT: -- asking him to come back up to clarify
4 points. Because, again, we're not going to have another
5 opportunity to be able to do this. I do want the record to be
6 complete. And there is disagreement about what the actual
7 variables measure, particularly as it relates to the weights.
8 So I would expect -- and I'm just letting you know this,
9 Dr. Singer, so you can prepare, some discussion or explanation
10 about the impact of these weights or not and why the weights
11 were chosen the way they were chosen. I am sure -- I don't know
12 that you were hear, Dr. Singer, that's why I'm referencing you
13 in the record, that you will have an explanation. But,
14 obviously, that's something that I'm going to ask about, also
15 asking about to what extent the foreclosure share is an
16 appropriate capture of the anticompetitive behavior and other
17 appropriate parts, the same questions that I've asked Dr. Topel.
18 So just to give you, Dr. Singer, some homework for tonight,
19 that's what I would expect to ask you about for tomorrow.

20 Anything else, Mr. Isaacson?

21 MR. ISAACSON: I'm not aware of anything else.

22 THE COURT: Mr. Cramer?

23 MR. CRAMER: No. Thank you, Your Honor.

24 THE COURT: Wow. That's great. Okay. So, thank you.

25 MR. CRAMER: What time do we start tomorrow morning?

2:15-cv-01045-RFB-PAL

1 THE COURT: What time do we start tomorrow. Hold on.

2 (Court conferring with courtroom administrator.)

3 THE COURT: So we'll start at 9 o'clock tomorrow.

4 MR. CRAMER: Well, Your Honor, I had one other point I
5 wanted to make. I apologize. Just so the record is clear.

6 There were certain things that Dr. Singer has not testified
7 about, for example the identity class. I just want to make it
8 clear that we stand on the papers in the record on that
9 particular part of the case.

10 THE COURT: Absolutely. I understand that.

11 MR. CRAMER: Thank you.

12 THE COURT: All right. Thank you.

13 I'm going to stay on the bench for a few moments.
14 Thank you.

15 (Whereupon the proceedings concluded at 4:19 p.m.)

16

17

18

19

20

21

22

23

24

25

2:15-cv-01045-RFB-PAL

--oOo--

COURT REPORTER'S CERTIFICATE

I, PATRICIA L. GANCI, Official Court Reporter, United States District Court, District of Nevada, Las Vegas, Nevada, certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

Date: August 27, 2019.

/s/ Patricia L. Ganci

Patricia L. Ganci, RMR, CRR

CCR #937